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ILLUSTRATED CATALOGUE

"G"

THE JAMES ROBERTSON COMPANY, LIMITED

MONTREAL, QUE. TORONTO, ONT.
WINNIPEG, MAN. ST. JOHN, N.B.

HEAD OFFICE:

142 WILLIAM STREET, MONTREAL.

TO THE TRADE

In placing this catalogue in your hands, we trust same will meet your every requirement.

We have endeavoured to make this as condensed as possible, and our main aim has been to get a classification of goods so that the different articles may be found with as little trouble as possible.

THE JAMES ROBERTSON COMPANY, LIMITED.

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TRADE CUSTOMS

ORDERS AND CLAIMS

All orders are contingent upon accidents and other delays unavoidable or beyond our control. All prices are subject to change without notice. All quotations are made for immediate acceptance, unless otherwise stipulated.

All claims for errors, corrections or shortages must be made within ten days after receipt of goods.

When an order has been incorrectly filled, the goods will be credited on return at prices billed, and will also credit the freight charges.

GOODS RETURNED WITHOUT NOTIFICATION

No goods are to be returned unless consent has first been obtained.

Where no fault exists on our part we will not accept goods of any kind that may be returned to us, unless previously agreed thereon.

Goods returned to accommodate purchasers must be freight prepaid, and will be credited at market rates not exceeding invoice price, less a reasonable discount to cover the expense of handling and putting them in saleable stock condition again—usually ten per cent.

SPECIALLY MADE GOODS

Goods made to order or differing from standard cannot be returned except by special agreement. When orders have been entered and passed on to our factory, they cannot be countermanded except with our consent and on terms to cover us against any loss.

MISTAKES ON OUR PART

If the fault of improper shipment or filling of orders is shown to be ours, we certainly will stand the cost of the return of the goods.

INSPECTION AND SHIPPING

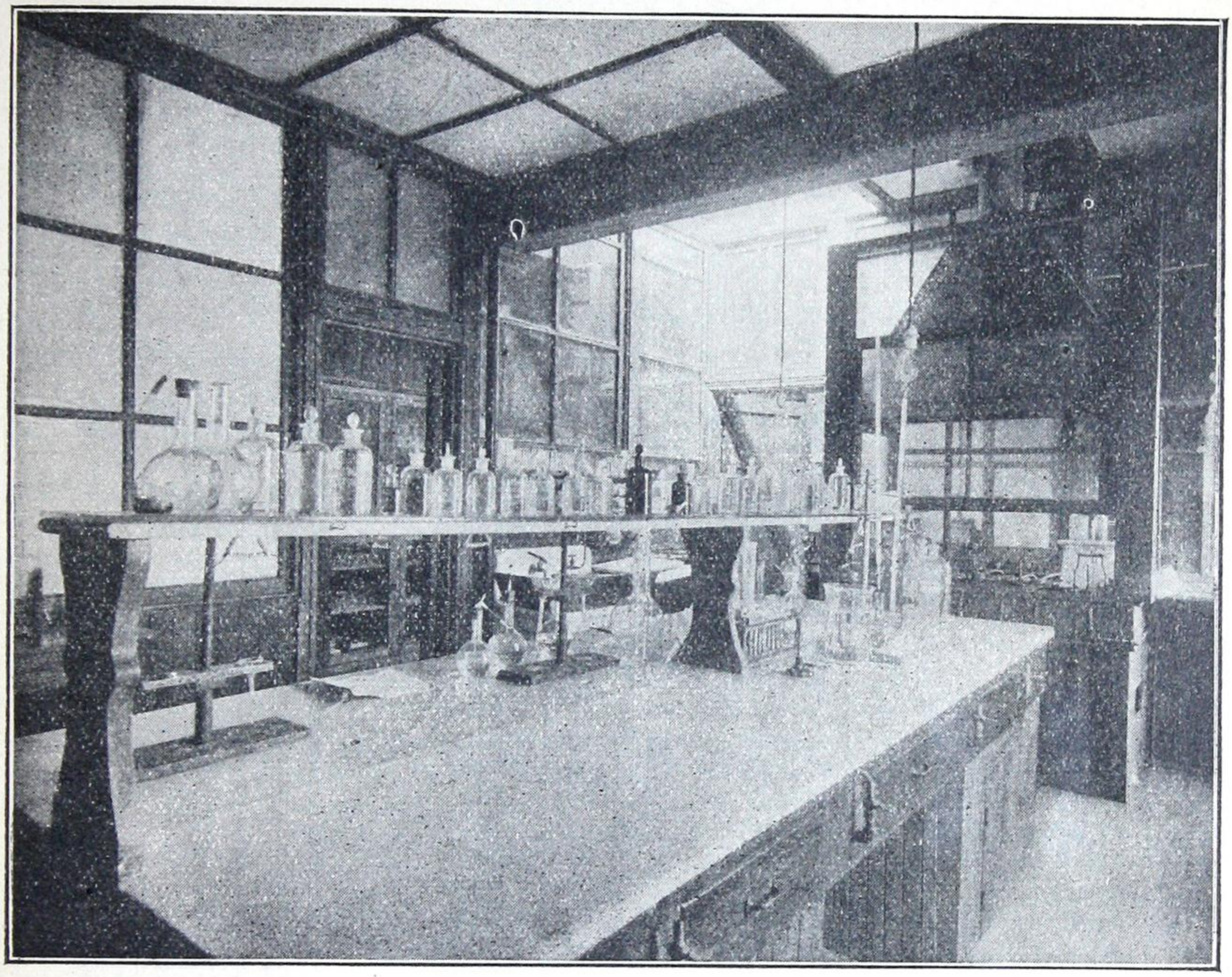
All goods are inspected at time of shipment by competent inspectors, and checked and re-checked by skilled packers. Receipt is taken from Transportation Company showing good condition at time of delivery. If goods reach you in damaged condition, your recourse is against Transportation Company, and not against the shipper.

GUARANTEE

The guarantee on manufactured goods holds them to be free of defects in material and workmanship, and we agree to make good by repair or replacement all damaged material not caused by misuse or accident. The manufacturers will not be responsible for labor bills, or constructive damages of any kind; the measure of damages to be the value of the defective article. Will allow no charges (other than freight) for labor, expense, or damage on account of defective material.

In wiring orders, use Telegraph Code, Pages VI. to XII. The present night letter-gram rate permits a long message at small cost.

PARTIAL VIEW OF CHEMICAL AND PHYSICAL DEPARTMENT



Modern manufacturing demands an ever increasing standard of purity and uniformity. It is generally recognized that this can only be accomplished by the careful testing and analysis of all raw materials, the various stages of manufacture, and the finished product.

With this end in view we have erected and maintained for several years a thoroughly up-to-date chemical and physical laboratory under the direction of a chemist, who is a specialist along the lines of our products.

As a result of the careful and constant supervision our customers are insured against the use of impure and undesirable material in the products they buy. Another important point is, that in the event of their wanting some special material to duplicate a sample, the same can be produced and a number of repeat orders filled with identically the same composition.

Our aim is to give our customers the best possible value, and to assure them of the highest standard of quality, for purposes required.

TELEGRAPH CODE

Always use this Code in telegraphing your orders, to avoid misunderstandings.

EXPLANATION

PAGE		
vi	Use words	A and prefixes Br to Sep for Fig. Numbers.
vii	"	K for Sizes.
viii	"	M for Calendar (Dates).
ix	Use words	N for Discounts.
ix	"	O for Money.
x	"	P for Order Numbers and Quantities.
xi & xiii	"	R for Phrases.

WORDS FOR CATALOGUE FIGURE NUMBERS

	CODE WORD		CODE WORD		CODE WORD		CODE WORD
00	Abacist	25	Acute	50	Agape	75	Allot
01	Aback	26	Adagio	51	Aghast	76	Allure
02	Abacus	27	Adder	52	Agile	77	Almond
03	Abaft	28	Addible	53	Aglet	78	Aloft
04	Abase	29	Adduce	54	Agnate	79	Alone
05	Abatis	30	Adept	55	Agog	80	Alpaca
06	Abbey	31	Adjoin	56	Ague	81	Alpine
07	Abhor	32	Adjunct	57	Airgun	82	Altar
08	Abroad	33	Admire	58	Airily	83	Alvine
09	Abrupt	34	Adore	59	Airing	84	Amaze
10	Abscind	35	Adroit	60	Aisle	85	Amazon
11	Absence	36	Adult	61	Ajar	86	Amber
12	Absolve	37	Advent	62	Alack	87	Ambush
13	Abstain	38	Adverb	63	Alarm	88	Amend
14	Abstract	39	Aerial	64	Albeit	89	Amerce
15	Abuttal	40	Aerify	65	Albino	90	Amiable
16	Abyss	41	Afar	66	Album	91	Amity
17	Accent	42	Afeard	67	Alcaid	92	Ample
18	Acclaim	43	Affable	68	Alcoove	93	Amulet
19	Accord	44	Affiant	69	Alder	94	Anchor
20	Accost	45	Affirm	70	Alert	95	Angler
21	Accuse	46	Afflict	71	Alias	96	Anise
22	Acquit	47	Affray	72	Alibi	97	Antic
23	Acre	48	Affront	73	Allay	98	Antler
24	Actor	49	Afresh	74	Allege	99	Anvil

PREFIX FOR HUNDREDS	100	200	300	400	500	600	700	800	900	1000	2000
To be used only in beginning Code Words above.	Br	Cl	Di	Ex	Fo	Gu	He	In	J	Lep	Sep

EXAMPLE:—To wire figure number 2481, word would read "Sepexalpine." Prefix "Sep" being for 2,000, "Ex" for 400, and "Alpine" for running number 81.

TELEGRAPH CODE—Continued

SIZES BY INCHES

Size	Code Word	Size	Code Word	Size	Code Word
$\frac{1}{8}$ inch	Kabyle	$1\frac{1}{4}$ inch	Katsup	4 inch	Kernel
$\frac{1}{4}$ "	Kadi	$1\frac{1}{2}$ "	Katydid	$4\frac{1}{2}$ "	Kersey
$\frac{3}{8}$ "	Kaffir	$1\frac{3}{4}$ "	Keckle	5 "	Kestrel
$\frac{1}{2}$ "	Kaftan	2 "	Kedge	6 "	Kettle
$\frac{5}{8}$ "	Kain	$2\frac{1}{4}$ "	Keel	7 "	Khaki
$\frac{3}{4}$ "	Kale	$2\frac{1}{2}$ "	Keg	8 "	Kham
$\frac{7}{8}$ "	Kalium	$2\frac{3}{4}$ "	Kelp	10 "	Khanate
1 "	Kanaka	3 "	Kerchief	12 "	Khaya
$1\frac{1}{8}$ "	Kaolin	$3\frac{1}{2}$ "	Kermes		

SIZES BY NUMBERS

Numbers	Code Word	Numbers	Code Word
00	Khendive	5	Kingly
0	Kibe	6	Kiosk
1	Kidnap	7	Kipper
$1\frac{1}{2}$	Killdee	8	Kirk
2	Kimono	9	Kite
$2\frac{1}{2}$	Kimri	10	Kitten
3	Kindle	11	Kiver
$3\frac{1}{2}$	Kindred	12	Klicket
4	Kinetic	13	Kloof
$4\frac{1}{2}$	Kining		

SIZES BY CAPACITIES

Size	Code Word	Size	Code Word
$\frac{1}{12}$ Pint	Knack	1 Quart	Knuckle
$\frac{1}{8}$ "	Knave	3 Pints	Kodak
$\frac{1}{4}$ "	Knead	$\frac{1}{2}$ Gall.	Koran
$\frac{1}{3}$ "	Knell	1 "	Kosher
$\frac{1}{2}$ "	Knitting	2 "	Kumiss
$\frac{3}{4}$ "	Knock	3 "	Krypton
1 "	Knout		

TELEGRAPH CODE—Continued

CALENDAR

DAY.	PRESENT MONTH.	DAY.	LAST MONTH.	DAY.	NEXT MONTH.
	Code Word.		Code Word.		Code Word.
1	Mabola	1	Meddler	1	Mickle
2	Macaroni	2	Median	2	Microbe
3	Macaw	3	Medical	3	Middling
4	Macerate	4	Mediocre	4	Midget
5	Mackerel	5	Medley	5	Midriff
6	Madam	6	Medulla	6	Midway
7	Madcap	7	Meek	7	Migrate
8	Madding	8	Megrim	8	Mikado
9	Madona	9	Medange	9	Mildew
10	Madrigal	10	Melee	10	Milestone
11	Madstone	11	Melenite	11	Militia
12	Magenta	12	Mellow	12	Milky
13	Magician	13	Melodeon	13	Miller
14	Magnate	14	Melon	14	Milliard
15	Magnify	15	Member	15	Mimic
16	Magnolia	16	Membrane	16	Mimosa
17	Magpie	17	Memento	17	Minatory
18	Magyar	18	Memoir	18	Mingle
19	Mahatma	19	Menace	19	Minister
20	Mahout	20	Menial	20	Mink
21	Maiden	21	Meninx	21	Minnow
22	Maintain	22	Meniscus	22	Miner
23	Maize	23	Mensal	23	Mintage
24	Majestic	24	Mentor	24	Minuet
25	Major	25	Mephitic	25	Miracle
26	Malady	26	Mercer	26	Mirage
27	Malign	27	Merciful	27	Mirror
28	Mallard	28	Merger	28	Miscall
29	Maltese	29	Meridian	29	Mischief
30	Manacle	30	Merino	30	Mistletoe
31	Mandolin	31	Mesa	31	Mistral

Mitre	Within a few days.	Molest	Within two weeks.
Mizzen	" 3 days.	Molify	" three weeks.
Moat	" 4 days.	Monger	" four weeks.
Mocha	" 5 days.	Moniton	" 30 days.
Modern	" one week.	Morring	" 45 days.
Modish	" 10 days.	Morality	" 60 days.

TELEGRAPH CODE—Continued

DISCOUNT

PER CENT.	CODE WORD.	PER CENT.	CODE WORD.	PER CENT.	CODE	PER CENT.	SUFFIX.
5	Nabob	37½	Neigh	67½	Nonplus	And 2½	az
7½	Narrate	40	Nereid	70	Novice	" 5	ay
10	Nasal	42½	Nether	72½	Nubbin	" 5 & 2½	ax
12½	Narwhal	45	Neutral	73½	Nucleus	" 5 & 5	aw
15	Nation	47½	Niblick	75	Nugget	" 7½	av
17½	Natant	50	Nictate	77½	Nulled	" 10	ai
20	Native	52½	Nidging	80	Numb	" 10 & 5	au
22½	Natty	55	Niggard	82½	Nutant	" 10&5&2½	ar
25	Naught	57½	Nimbus	85	Nuzzle	" 12½	ag
27½	Nautical	60	Nitrate	85	Nutmeg	" 15	an
30	Neat	62½	Noble	87½	Nyctic	" 20	am
33⅓	Nectar	65	Nocturn	90	Nymph	" 25	ak
35	Negus	66⅔	Nonage				

Add the suffixes to the above words if the additional discounts are to be used.

EXAMPLE:—**If 60-10-5-2½% was to be quoted, code word would read "Nitratear," "Nitrate" for 60%, and suffix "ar" for 10-5-2½%.**

MONEY—DOLLARS

Use words below for amounts from **1 to 9 Dollars.**		**Second Figure** — Add suffix below to code word for amounts from **10 to 99 Dollars.**		**Third Figure**—Add suffix below to code word and first suffix for amounts from **100 to 999.**	
1	Oak	1	eh	1	ful
2	Oasis	2	ej	2	fy
3	Odor	3	ek	3	ic
4	Ohm	4	el	4	id
5	Onset	5	em	5	il
6	Opal	6	en	6	ion
7	Orang	7	eo	7	ish
8	Organ	8	ep	8	ist
9	Orris	9	er	9	ite
		0	es	0	ive

MONEY—CENTS

Use words below for amounts from **1 to 9 cents.**		**Second Figure** — Add suffix below to code word for amounts from **10 to 99 cents.**	
1	Ozier	1	ize
2	Otter	2	kin
3	Oust	3	ling
4	Oval	4	ly
5	Overt	5	ment
6	Owe	6	ness
7	Oxide	7	ple
8	Oyer	8	ric
9	Ozone	9	ster
		0	ure

EXAMPLE:

Use the two words:

Odor - en - ist Ozone - ly

3 6 8 9 4

And we have $368.94.

TELEGRAPH CODE—Continued

ORDER NUMBERS AND QUANTITIES

	CODE WORD.		CODE WORD.		CODE WORD.		CODE WORD.
1	Paca	26	Pedal	51	Piled	76	Poky
2	Pack	27	Peel	52	Pinch	77	Pole
3	Pad	28	Pelf	53	Pine	78	Polka
4	Pagan	29	Penny	54	Pious	79	Polyp
5	Pail	30	Peon	55	Pique	80	Pomp
6	Palm	31	Peril	56	Pitch	81	Pond
7	Panel	32	Perch	57	Pithy	82	Pool
8	Pang	33	Pert	58	Pivot	83	Poppy
9	Pansy	34	Pesky	59	Pixy	84	Porch
10	Pant	35	Petit	60	Plaid	85	Porgy
11	Parch	36	Pew	61	Plane	86	Pose
12	Pard	37	Pewit	62	Plash	87	Pouch
13	Parry	38	Phase	63	Plat	88	Pout
14	Parse	39	Phial	64	Plaza	89	Prank
15	Pasch	40	Phiz	65	Plead	90	Preen
16	Paste	41	Phlox	66	Plod	91	Press
17	Path	42	Photo	67	Pluck	92	Prey
18	Patty	43	Piano	68	Plum	93	Pride
19	Pause	44	Pica	69	Plush	94	Prim
20	Pave	45	Pied	70	Poach	95	Prink
21	Pawn	46	Piety	71	Poem	96	Probe
22	Peach	47	Pig	72	Poesy	97	Prod
23	Peak	48	Pigmy	73	Point	98	Prong
24	Pearl	49	Pike	74	Poise	99	Prune
25	Peck	50	Pill	75	Poker		

Add the following suffixes for numbers above 99:

THIRD FIGURE—Add suffix below to code word for numbers **100 to 999.**

1	oc
2	ol
3	on
4	op
5	os
6	ot
7	ov
8	ow
9	ox
0	oy

FOURTH FIGURE — Add suffix below to code word and first suffix for numbers **1000 to 9999.**

1	age
2	ant
3	ble
4	dom
5	ent
6	ice
7	ine
8	ism
9	red
0	ule

EXAMPLE:

To wire: "Order No. 6357" or Quantities, we have:

Plat -os - ine,

63 5 7

TELEGRAPH CODE—Continued

WORDS FOR PHRASES

Prices—Inquiries

CODE WORD	
RABBIT	Kindly quote us on———
RACER	At what price and when can you furnish———
RACKET	What is your lowest price in quantities of———
RADIAL	Send us your latest discount sheet
RAFFLE	To secure order can I quote———

Prices—Answers

RAFTER	We quote on———
RAGGED	Cannot do better than———
RAID	We cannot accept at old prices
RAISIN	Prices on brass goods have advanced
RAMBLE	Prices on iron goods have advanced
RAMIE	New prices will be furnished on application

Orders—Inquiries

RAMIFY	Have you entered our order———?
RAMOSE	Shall we enter order———?
RAMP	Shall we duplicate order———?
RANCH	Send us another copy of your order———
RANDOM	When did you order?

Orders—Answers

RANGER	We have no order of date or number you state
RAREBIT	We have entered your order
RARITY	Not in stock, must make goods on your order
RASHER	Impossible for us to fill your order in the time specified

Orders—Directions

RATTAN	Enter our order for———
RAVEL	Add the following to our order———
RAVINE	Our order should read———
RAZOR	Cancel our order of———

Shipment—Inquiries

READER	By what route did you ship?
REALIST	Can you ship immediately?
REBEL	Can you ship in a few days?
REBUFF	How soon can you ship?
RECANT	To whom was shipment made?
RECITE	When can you ship our order of———?
RECLUSE	When did you ship our order of———?
RECOIL	When can you duplicate shipment of?
REDAN	Please send shipping instructions

TELEGRAPH CODE—Concluded

Shipment—Directions

CODE WORD	
REFRACT	Ship at once by express
REGAL	Ship at once by freight
REGATTA	Ship part at once by express, balance by freight
REGIME	Ship part at once, balance as soon as possible
REGRESS	Ship as soon as possible
REHEARSE	Ship by first steamer
REJOICE	Ship in our name to———
RELAX	Ship order complete in one lot———
REMISS	Ship order not later than———
RENARD	Ship in addition to previous order
REPEAL	Follow shipment with tracer
REPLICA	Trace shipment of———

Shipment—Answers

REQUITE	Will ship at once
RESCUE	Will ship part at once, balance shortly
RESEARCH	Will ship on
RESTIVE	Will ship by express
RETIARY	Will ship by freight
RHENISH	Will ship by steamer
RHETORIC	We have already shipped
RHYME	None in stock, but can make and ship on———
RIBBON	Shipment went forward via———
RICKETY	Complete shipment by express on———
RIGOR	Complete shipment by freight on———
RINGLET	Complete shipment by steamer on———
RIPPLE	Partial shipment by express on———
RITUAL	Partial shipment by freight on———
ROBUST	Partial shipment by steamer on———
ROCKET	We are tracing shipment of———

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STANDARD BRASS VALVES.

GLOBE.

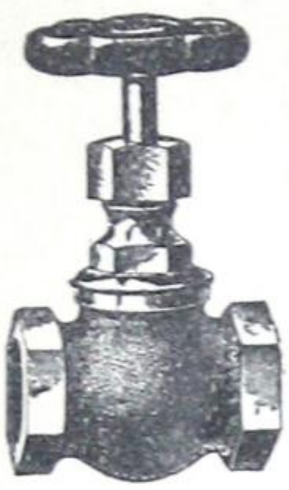


Fig. G1.
HORIZONTAL CHECK.

ANGLE.



Fig. G2.
ANGLE CHECK.

CROSS.

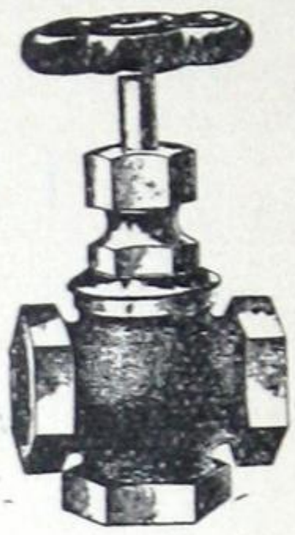


Fig. G3.
VERTICAL CHECK.

NEEDLE POINT.

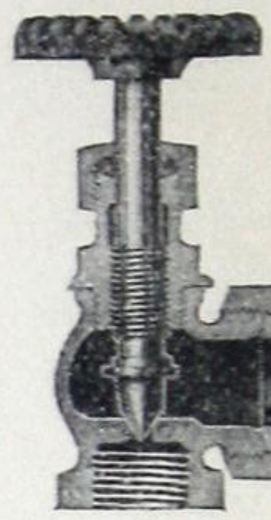


Fig. G3½.
SWING CHECK.
Regrinding.



Fig. G4.
PEET.



Fig. G5.
GATE.



Fig. G6.
HOSE GATE,
With Cap and Chain.

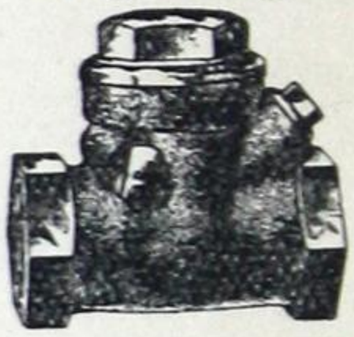


Fig. G7.
GATE,
With Sliding Stem and Lever.



Fig. G8.



Fig. G9.

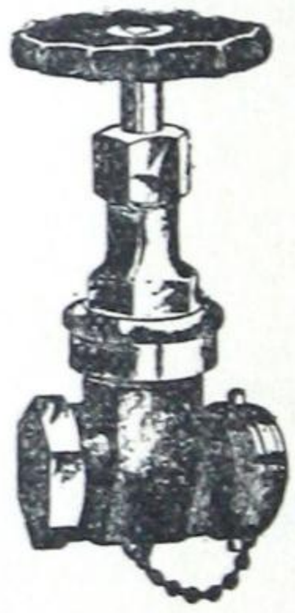


Fig. G10.

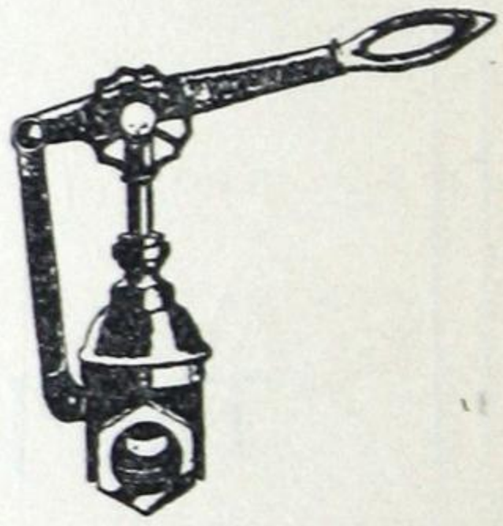


Fig. G11.

SIZE		⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe Valves	each	$ .72	$ .72	$ .77	$1.00	$1.26	$1.80	$2.52	$3.50	$5.30	$10.00	$14.40
Angle Valves	"	.72	.72	.77	1.00	1.26	1.80	2.52	3.50	5.30	10.00	14.40
Cross Valves	"	.....	1.25	1.25	1.50	2.00	2.50	3.50	5.00	8.00	16.00	24.00
Needle Point Globe Valve	"	.....	1.40	1.50	2.00	2.50	.....	.....	.....	.....	.....	.....
" " Angle	"	.....	1.40	1.50	2.00	2.50	.....	.....	.....	.....	.....	.....
" " " " with Union	"	.....	2.00	2.20	3.00	3.50	.....	.....	.....	.....	.....	.....
Horizontal Check Valves	"	.65	.65	.70	.90	1.15	1.60	2.25	3.15	4.75	9.00	13.00
Angle Check Valves	"	.....	.72	.77	1.00	1.26	1.80	2.52	3.50	5.30	10.00	14.40
Vertical Check Valves	"	.....	.72	.77	1.00	1.26	1.80	2.52	3.50	5.30	.....	.....
Swing Check Valve, Common	"	.....	1.80	1.80	2.00	2.25	2.80	3.65	4.75	6.75	15.00	24.00
" " Regrinding	"	.....	2.50	2.50	2.75	3.10	4.00	5.50	7.00	10.00	19.00	27.00
Peet Valve	"	.....	1.25	1.25	1.30	1.75	2.50	3.50	5.00	7.50	14.00	20.00
Gate Valves	"	.....	1.45	1.45	1.65	2.05	2.80	3.70	5.00	7.30	13.00	19.00
Hose Gate Valve with Cap & Ch.		.....	.....	.....	.....	3.95	5.10	6.70	8.85	12.60	20.00	29.50
Hose Gate Valve less Cap & Ch'n.		.....	.....	.....	.....	2.45	3.35	4.70	6.25	9.00	15.00	22.00
Gate Valve with Sliding Stem & Lever		.....	.....	.....	3.50	3.60	4.80	6.20	8.50	11.80	20.25	30.00

Note.—When ordering Hose Valves, be careful to say what number of threads to the inch and also outside diameter of male hose thread. Hose Valves will be sent without Cap and Chain unless otherwise ordered.

BRASS VALVES WITH WOOD WHEELS.

GLOBE

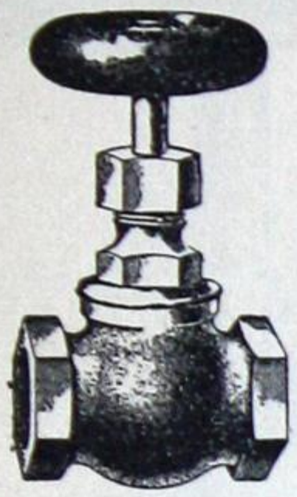


Fig. G15.

ANGLE.

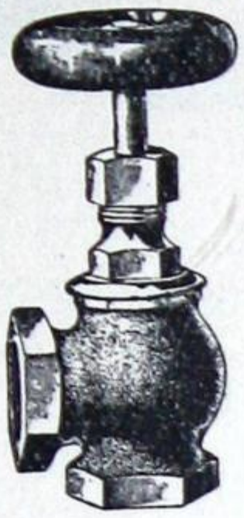


Fig. G16.

ANGLE.
With Lock Shield.

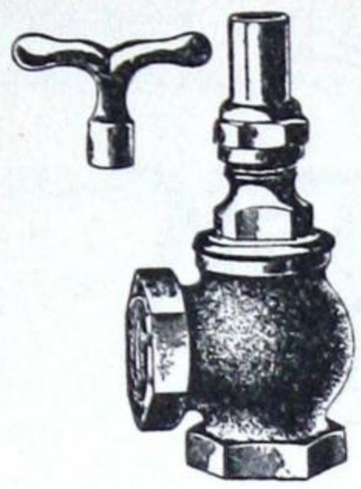


Fig. G17.

ANGLE.
With Union.

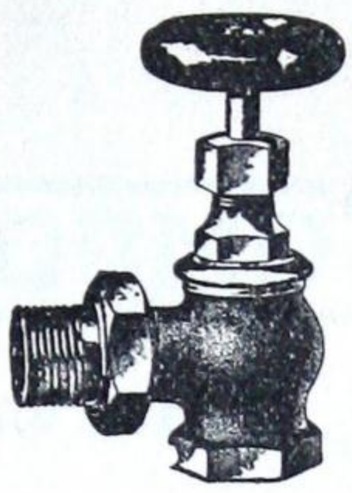


Fig. G18.

GATE.



Fig. G19.

Right Hand.



Fig. G21.

Keys for Lock Shield Valves 2″ long, 50c. each. Any length made to order.

CORNER VALVES.
With Wood Wheel.

These Valves can be supplied right hand (as shown) or left hand.

When ordering, always be careful to state right hand or left hand.

Right Hand,
With Union.

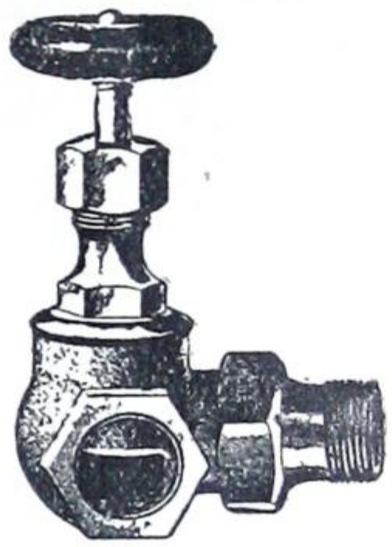


Fig. G22.

Q. O. RADIATOR VALVES.

Plain.

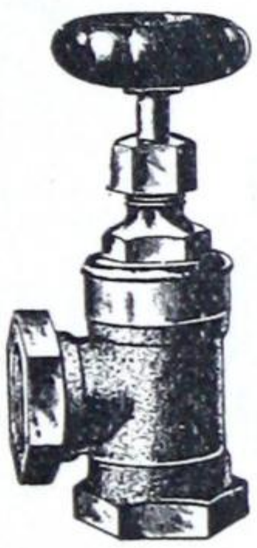


Fig. G23.

With Union.

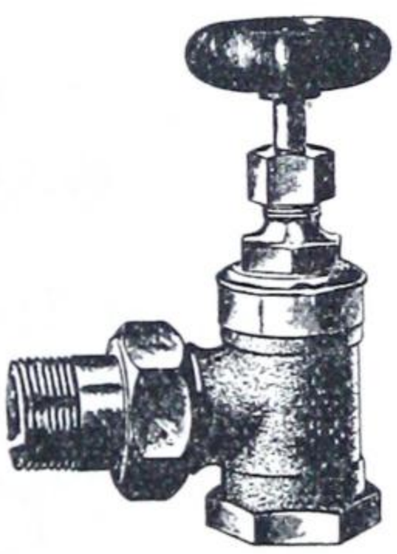


Fig. G24.

UNION ELBOW.

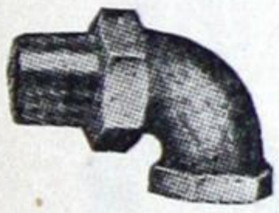


Fig. G25.

UNION TEE.

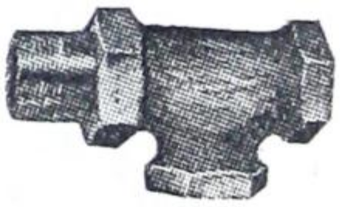


Fig. G26.

SIZE.		⅜	½	¾	1	1¼	1½	2
Globe Valve, Wood Wheel..... Angle Valve, Wood Wheel.....	Rough Brass .....ea.	$1.25	$1.40	$1.75	$2.35	$3.25	$4.35	$6.85
Lock Shield Valve, Wood Wheel	Nickel-Plated..... "	1.55	1.70	2.10	2.75	3.70	4.85	7.60
Angle Valve, Wood Wheel, with Union Brass.....	"	.....	2.15	2.50	3.30	4.40	5.90	9.25
Angle Valve, Wood Wheel, with Union, Nickel-plated	"	.....	2.50	2.90	3.75	5.00	6.50	10.00
Gate Valves, Wood Wheel Brass	"	.....	2.00	2.55	3.40	4.50	6.00	8.90
" " " " Nickel-plated.....	"	.....	2.40	3.00	3.85	5.00	6.60	9.65
" " " " with Union Brass.....	"	.....	3.20	3.75	4.65	6.00	8.25	11.90
" " " " " Nickel-plated	"	.....	3.65	4.25	5.20	6.60	9.00	12.80
Corner Valves, Wood Wheel, Nickel-plated.....	"	.....	.....	2.85	3.65	4.90	6.75	11.00
" " " " with Union, Nickel-pl'd	"	.....	.....	3.80	4.75	6.40	8.10	13.10
Q.O. Radiator Valves, Nickel-plated.....	"	.....	1.65	1.95	2.65	3.70	5.00	7.75
" " with Union, Nickel-plated...	"	.....	2.40	2.85	3.65	5.05	7.10	10.85
Union Elbows, Nickel-plated.....	"	.....	1.75	2.00	2.50	3.20	4.00	7.00
Union Tees " "	"	.....	2.25	2.65	3.35	4.30	5.75	9.00

COMPODISK

BRASS VALVES.

NOTE External Thread Construction.

Steam Working Pressure, 175 lbs.

SECTIONAL.

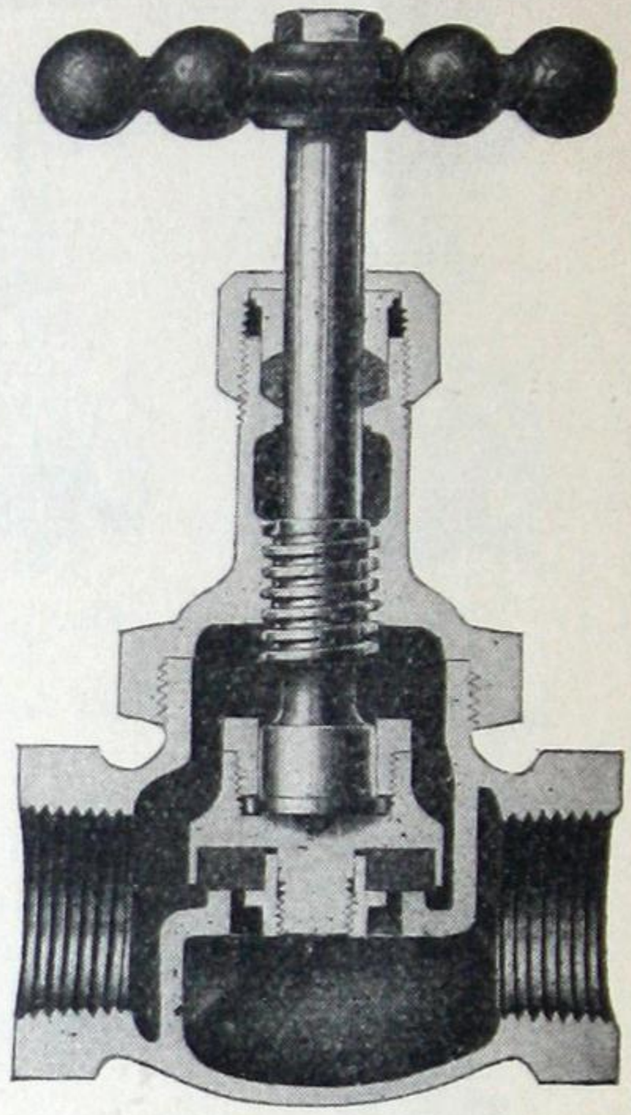


Fig. G27.

GLOBE VALVE.

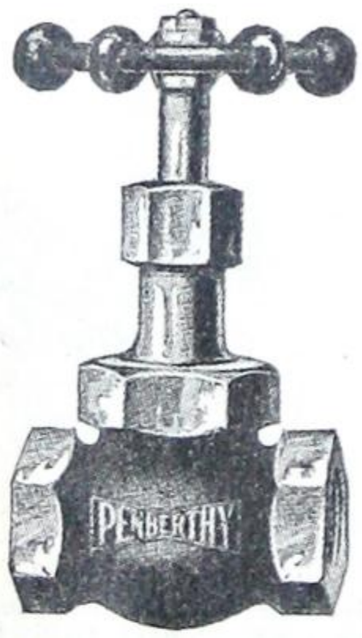


Fig. G27a.

ANGLE VALVE.

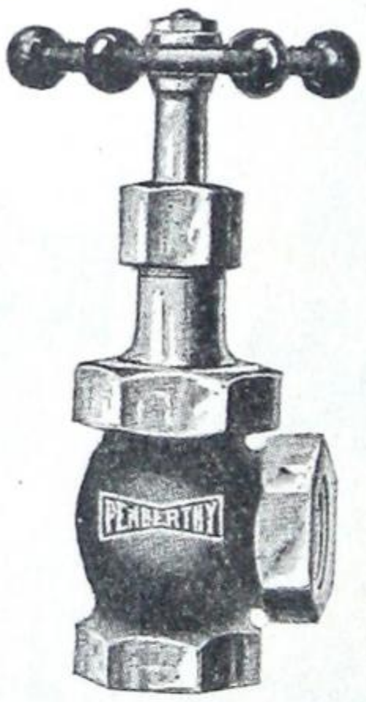


Fig. G27b.

CROSS VALVE.



Fig. G27c.

HORIZONTAL CHECK VALVE.

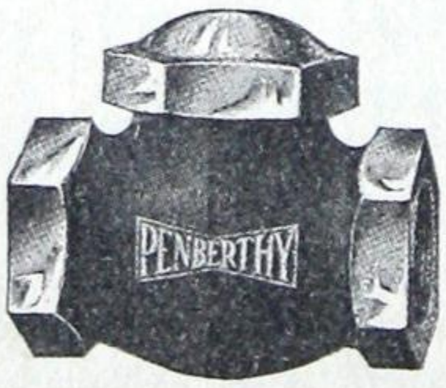


Fig. G27d.

SWING CHECK VALVE.



Fig. G27e.

COMPODISK

BRASS VALVES.

Size, Inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Brass Globe Valves.....each.	$1.10	$1.10	$1.25	$1.60	$2.20	$2.80	$4.00	$5.50	$8.75	$15.75	$22.00
" Angle " ..... "	1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
" Cross " ..... "	.....	1.70	2.00	2.25	2.50	3.25	4.75	6.25	9.50	20.00	27.50
" Horizontal Check.. "	1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	21.00
" Swing " "	.....	1.25	1.25	1.30	1.75	2.25	3.25	4.25	6.25	11.50	16.00

DISCS FOR

COMPODISK

VALVES.



Fig. G27f.

List Price.

Size.....	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Price, each.....	$ .06	$ .06	$ .08	$ .08	$ .10	$ .12	$ .18	$ .24	$ .36	$ .48	$ .80

COMPODISK

VALVES.

Are all fitted with composition discs specially made for us. They are composed of rubber and long-fibre asbestos, scientifically treated and compounded and vulcanized under heavy pressure in moulded form.

JENKINS' BROS. VALVES.

GLOBE.

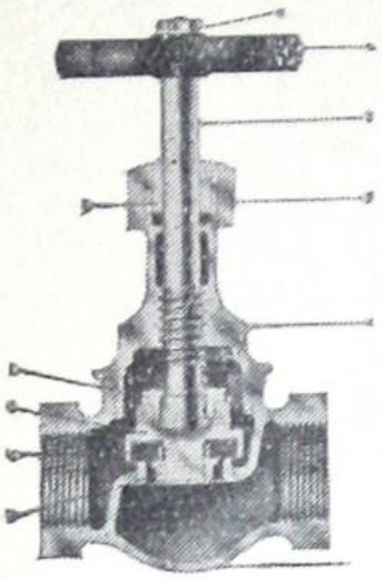


Fig. G28.

ANGLE.

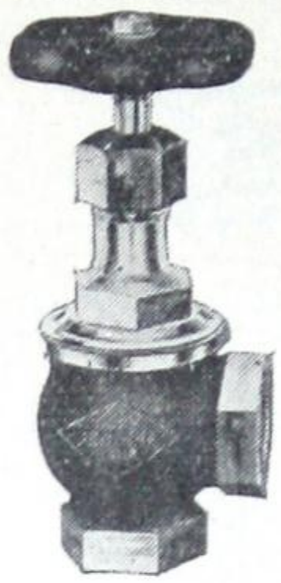


Fig. G29.

CROSS.

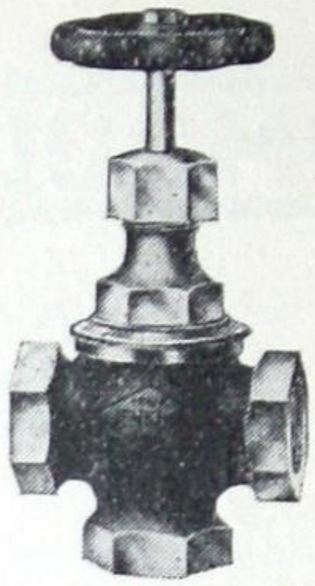


Fig. G30.

BLOW-OFF.

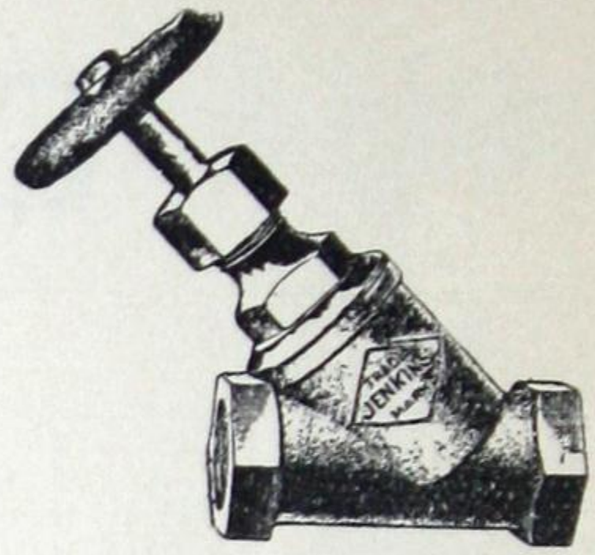


Fig. G31.

HORIZONTAL CHECK.



Fig. G32.

ANGLE CHECK.



Fig. G33.

VERTICLE CHECK



Fig.G34.

SWING CHECK.

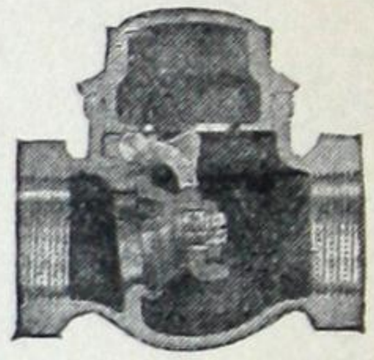


Fig. G35.

Valves are always furnished with discs for steam. If valves are required for cold water, air, gas or any special purpose, please specify, in order, the conditions for which they are intended. All Jenkins' Bros. Globe, Angle and Cross Valves can be repacked under full pressure, when full open, as Lock Nut of Disc Holder seats itself on under face of Bonnet.

W. W. ANGLE.

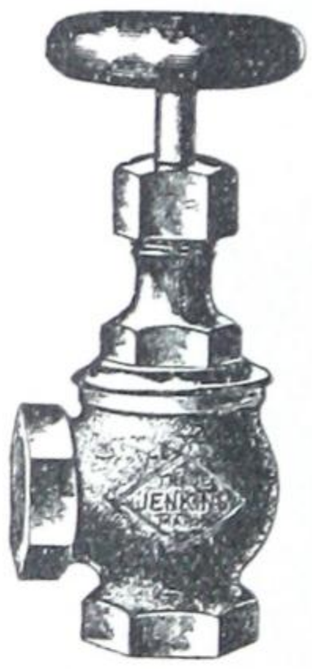


Fig. G38.

W. W. ANGLE. With Union.

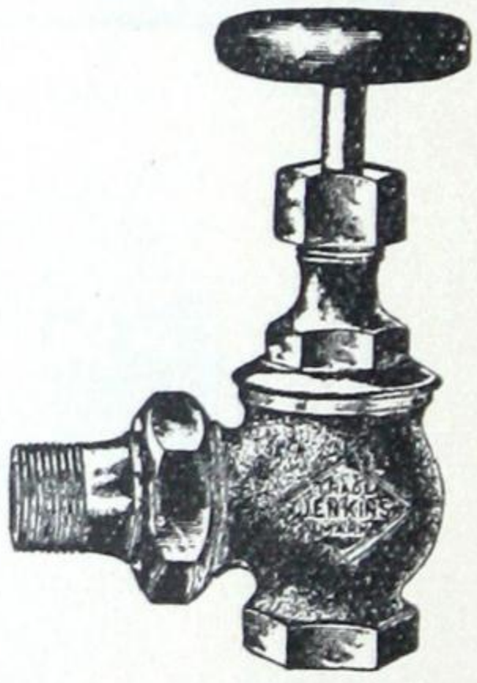


Fig. G39.

LOCK SHIELD.

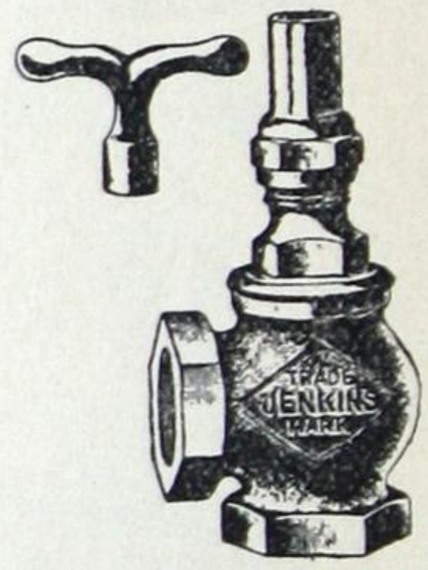


Fig. G40.

REGULAR.



Fig. G41.

REGULAR. With Union.

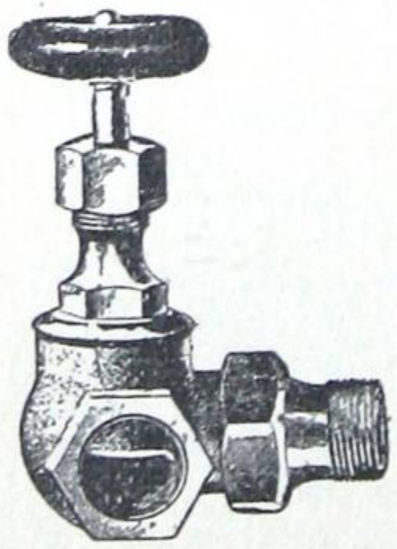


Fig. G42.

CORNER VALVES.

Wood Wheel.

Have Inlet of valve facing you, then outlet on right is Right Hand Valve and on the left a Left Hand Valve.

Always mention if Right or Left is required.

OFFSET.



Fig. G43.

OFFSET. With Union.

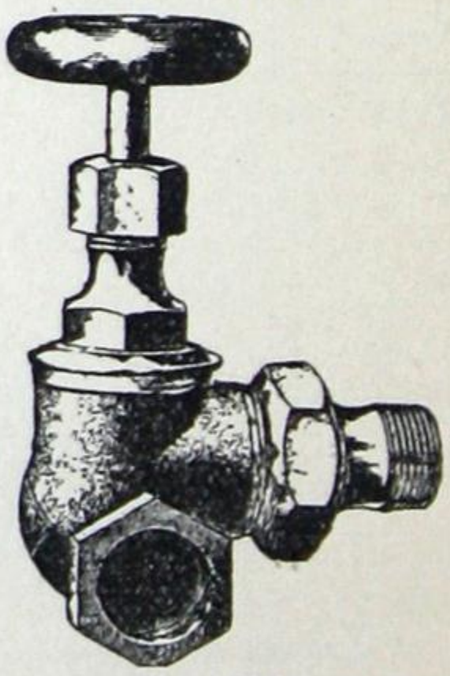


Fig. G44.

JENKINS' BROS. STEAM METAL VALVES.

SCREWED AND FLANGED.

Standard Pattern—Steam Working Pressure, 150 Pounds.

SIZE			⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe Valve	Screwed	each	$1.10	$1.10	$1.25	$1.60	$2.20	$2.80	$4.00	$5.50	$8.75	$15.75	$22.00
" "	Flanged	"	.....	3.50	4.00	4.00	5.00	6.00	9.00	11.00	16.50	25.00	34.00
Angle "	Screwed	"	1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
" "	Flanged	"	.....	3.50	4.00	4.00	5.00	6.00	9.00	11.00	16.50	25.00	34.00
Cross "	Screwed	"	.....	1.70	2.00	2.25	2.50	3.25	4.75	6.25	9.50	20.00	27.50
" "	Flanged	"	.....	.....	.....	7.00	8.00	9.00	12.00	15.00	23.00	33.00	44.00
Blow-off "	Screwed	"	.....	.....	2.00	2.00	3.00	4.00	5.00	6.50	9.25	18.00	25.00
" "	Flanged	"	.....	.....	.....	5.00	7.00	9.00	11.00	13.00	20.00	28.00	37.00
Horizontal Check Angle "	Screwed	"	1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	14.00	21.00
Vertical "	Flanged	"	.....	.....	.....	4.00	5.00	6.00	8.00	10.00	15.00	23.00	32.00
Swing "	Screwed	"	.....	.....	1.30	1.50	1.75	2.25	3.25	4.25	6.25	12.00	20.00
" "	Flanged	"	.....	.....	.....	.....	4.25	6.25	7.85	10.25	15.50	25.00	32.50
Globe Valve Screwed, with Steam Metal Discs		"	1.30	1.30	1.45	~~1.85~~ 1.80	2.50	3.15	4.35	5.90	9.25	16.55	23.20

SCREWED AND FLANGED.

Extra Heavy Pattern { Steam Working Pressure, 300 pounds. / Water and Air " 500 pounds.

SIZE			¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe Valves,	Screwed	each	$3.00	$3.50	$4.00	$5.00	$6.50	$8.25	$11.00	$16.00	$33.00	$45.00
" "	Flanged	"	.....	.....	6.00	7.50	10.00	13.00	17.00	24.00	43.00	57.00
Angle "	Screwed	"	3.00	3.50	4.00	5.00	6.50	8.25	11.00	16.00	33.00	45.00
" "	Flanged	"	.....	.....	6.00	7.50	10.00	13.00	17.00	24.00	43.00	57.00
Blow-off "	Screwed	"	.....	.....	4.50	6.00	8.00	10.00	13.00	19.00	36.00	46.00
" "	Flanged	"	.....	.....	6.50	8.00	11.00	14.00	18.00	28.00	50.00	60.00
Horizontal Check Angle "	Screwed	"	.....	.....	3.00	3.50	4.50	5.50	7.75	11.50	21.00	30.00
	Flanged	"	.....	.....	5.00	6.50	8.50	10.50	14.25	20.00	31.00	42.00

RADIATOR VALVES, with Wood Wheels.

SIZE			¼	⅜	½	¾	1	1¼	1½	2
Globe or Angle,	Brass	each	$1.50	$1.85	$2.00	$2.50	$3.20	$4.50	$6.25	$10.50
" "	Nickel-plated	"	1.90	2.25	2.40	2.90	3.60	4.90	6.65	10.90
" "	with Union, Brass	"	.....	2.60	2.75	3 50	4.30	5.85	7.75	12.60
" " "	Nickel-plated	"	.....	3.00	3.15	3.90	4.70	6.25	8.15	13.00
Corner Valves, Regular,	Brass	"	.....	.....	2.25	2.75	3.50	5.00	7.00	11.55
" " "	Nickel-plated	"	.....	.....	2.65	3.15	3.90	5.40	7.40	11.95
" " "	with Union, Brass	"	.....	.....	3.05	3.85	4.75	6.45	8.55	13.85
" " "	" Nickel-plated	"	.....	.....	3.45	4.25	5.15	6.95	8.95	14.25
" "	Offset, Brass	"	.....	.....	2.25	2.75	3.50	5.00	7.00	11.55
" " "	Nickel-plated	"	.....	.....	2.65	3.15	3.90	5.40	7.40	11.95
" " "	with Union, Brass	"	.....	.....	3.05	3.85	4.75	6.45	8.55	13.85
" " "	" Nickel-plated	"	.....	.....	3.45	4.25	5.15	6.95	8 95	14.25

Lock Shield Valves same list as Wood Wheel, keys extra. For Jenkins' Discs, see page 19.

Extra Keys for Lockshield Valves List:—Additional....	¼ to ¾	1 and 1¼	1½ and 2
	$ .25	$ .30	$ .40

STEAM BRONZE COMPOSITION

THE POWELL VALVES

STEAM WORKING PRESSURE, 200 POUNDS

WHITE STAR—Regrindable, Reversible, Renewable Disc.

GLOBE.

Sizes, $\frac{1}{8}$" to $\frac{1}{2}$"

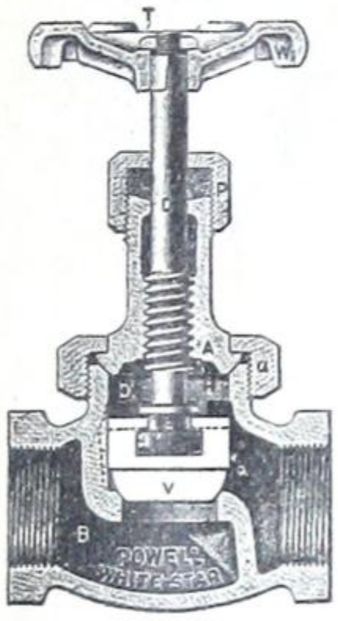


Fig. G45a.

Sizes, $\frac{3}{4}$" and larger.

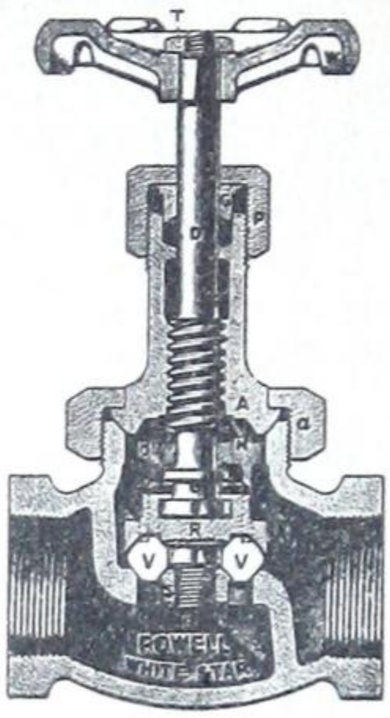


Fig. G45b.

ANGLE.

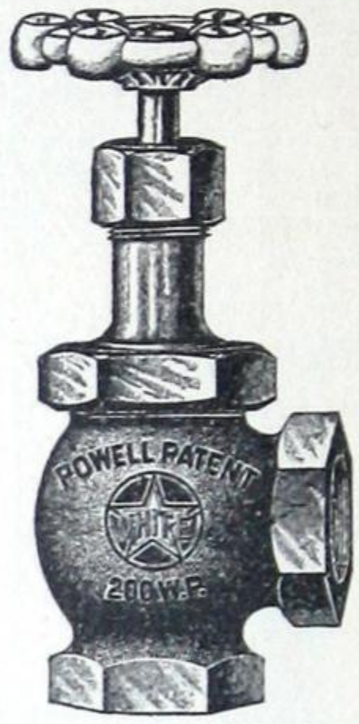


Fig. G45c.

CROSS.

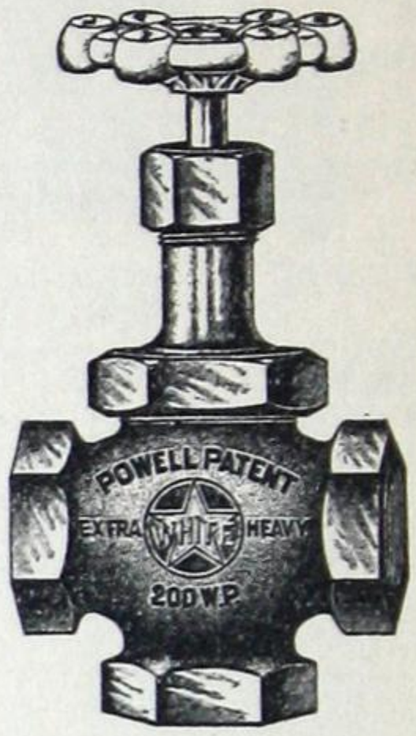


Fig. G45d.

HORIZONTAL CHECK.

Sizes, $\frac{1}{8}$" to $\frac{1}{2}$".

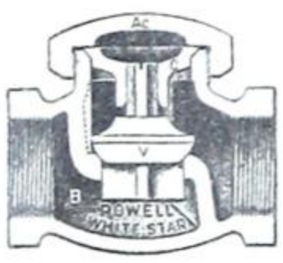


Fig. G45e.

Sizes, $\frac{3}{4}$" and larger.

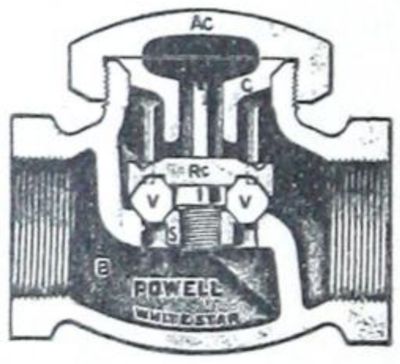


Fig. G45f.

ANGLE CHECK.

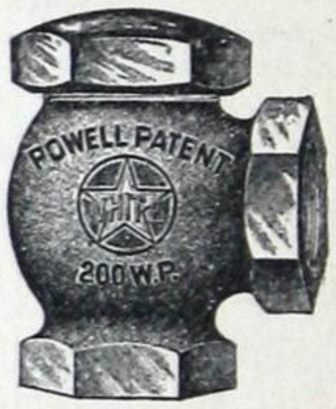


Fig. G45g.

WHITE STAR, with "Powellum" Bronze Discs and Seats.

GLOBE.

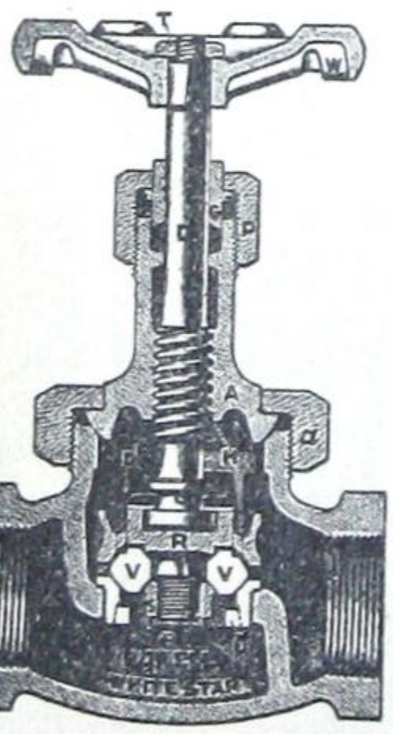


Fig. G45h.

SEAT.



Fig. G45i.

MODEL STAR—Regrinding HORIZONTAL CHECK.

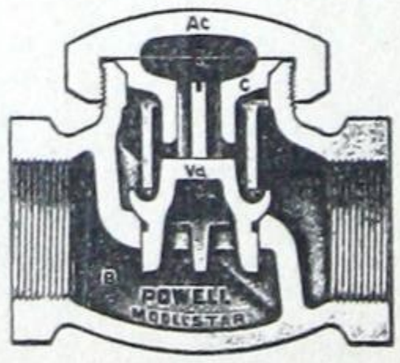


Fig. G45j.

MODEL STAR REGRINDING GLOBE.

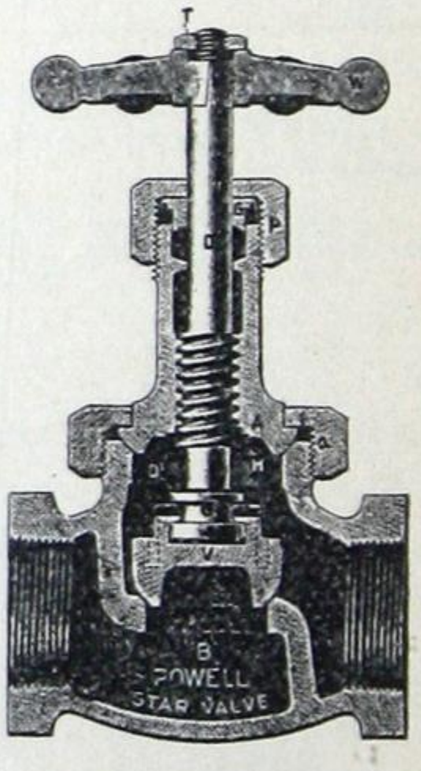


Fig. G45k.

POWELL VALVES.

STEAM BRONZE COMPOSITION. **STEAM WORKING PRESSURE, 200 lbs.**

Size, Inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
"White Star" Valves—Regrindable, Reversible, Renewable											
Globe, Screwed.....each	$1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
" Flanged..... "	3.40	3.40	3.40	5.10	6.70	8.30	11.50	15.65	20.75	30.00	42.00
Angle, Screwed..... "	1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
Angle, Flanged..... "	3.40	3.40	3.40	5.10	6.70	8.30	11.50	15.65	20.75	30.00	42.00
Cross, Screwed..... "	1.75	1.75	1.75	2.55	3.10	4.15	5.45	7.80	12.00	23.50	35.50
" Flanged..... "	.....	.....	4.75	7.35	9.80	11.75	16.75	21.00	28.65	41.00	56.70
Horizontal Check, Screwed "	1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	21.00
" " Flanged "	.....	.....	3.00	4.55	6.20	7.50	10.50	14.00	19.00	26.50	37.50
Angle Check, Screwed.... "	1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	21.00
Angle Check, Flanged.... "	.....	.....	3.00	4.55	6.20	7.50	10.50	14.00	19.00	26.50	37.50
"White Star" Valves—Regrindable, Reversible, Renewable with Renewable Seats and Projecting Packing Glands.											
Globe, Screwed..... each	.....	1.50	1.75	2.20	3.00	3.80	5.20	7.00	11.00	18.75	26.50
" Flanged..... "	.....	.....	3.85	5.65	7.30	9.00	12.50	17.00	22.30	33.00	46.00
Angle, Screwed..... "	.....	1.50	1.75	2.20	3.00	3.80	5.20	7.00	11.00	18.75	26.50
" Flanged..... "	.....	.....	3.85	5.65	7.30	9.00	12.50	17.00	22.30	33.00	46.00
Cross, Screwed..... "	.....	2.25	2.25	3.10	3.65	4.85	6.40	9,00	15.60	26.20	39.20
" Flanged..... "	.....	.....	5.15	7.90	10.35	12.45	17.75	22.25	30.30	43.50	60.50
Horizontal Check, Screwed "	.....	.....	.....	1.75	2.35	3.15	4.40	6.00	8.85	15.75	24.35
Horizontal Check, Flanged. "	.....	.....	.....	.....	6.60	8.00	11.30	15.00	20.40	28.75	41.00
Angle Check, Screwed.... "	.....	.....	.....	1.75	2.35	3.15	4.40	6.00	8.85	15.75	24.35
" " Flanged.... "	.....	.....	.....	.....	6.60	8.00	11.30	15.00	20.40	28.75	41.00
"Model Star" Valves—Regrinding.											
Globe, Screwed.....each.	.70	.70	.85	1.15	1.45	2.00	2.80	3.90	6.20	12.00	16.50
" Flanged..... "	2.00	2.00	2.20	3.40	4.70	5.80	8.00	11.00	14.50	21.00	29.00
Angle, Screwed..... "	.70	.70	.85	1.15	1.45	2.00	2.80	3.90	6.20	12.00	16.50
" Flanged..... "	2.00	2.00	2.20	3.40	4.70	5.80	8.00	11.00	14.50	21.00	29.00
Cross, Screwed..... "	1.00	1.00	1.00	1.50	2.00	2.70	3.50	5.10	8.00	16.00	24.00
" Flanged..... "	.....	.....	3.20	5.10	7.00	8.40	12.00	15.00	20.50	29.00	40.00
Horizontal Check, Screwed "	.50	.50	.60	.85	1.15	1.55	2.30	3.25	5.20	10.00	14.00
" " Flanged "	1.50	1.50	1.90	3.00	4.30	5.20	7.30	9.70	13.30	18.20	25.80
Angle Check, Screwed..... "	.50	.50	.60	.85	1.15	1.55	2.30	3.25	5.20	10.00	14.00
" " Flanged.... "	1.50	1.50	1.90	3.00	4.30	5.20	7.30	9.70	13.30	18.20	25.80

The White Star Valve with renewable seat as shown in Figs. G45h and i is the acme of Valve Construction. Fig. G45h shows discs of valves ¾" and larger, on size ¼ to ½ Disc is same as shown in Fig. G45a The Model Star as shown in Figs. G45 j and k is a medium priced valve of Powell quality.

STANDARD BRASS STEAM STOP COCKS.

SQUARE HEAD.



Fig. G46

FLAT HEAD.

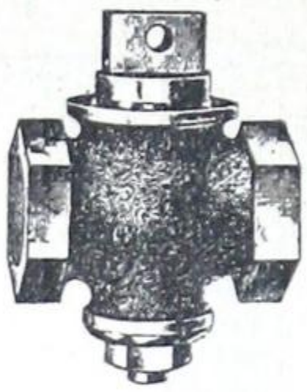


Fig. G47.

SQUARE HEAD.
Stop on Key.



Fig. G48.

THREE WAY.

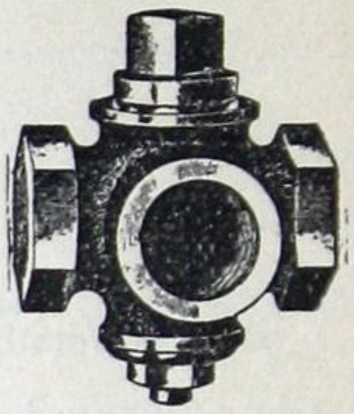
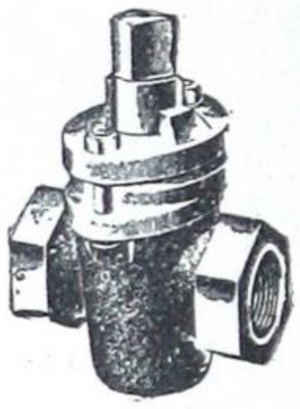


Fig. G49.

ASBESTOS PACKED COCKS.



Brass Screwed.

Fig. G51.

STANDARD BRASS VALVES.

BUTTERFLY.

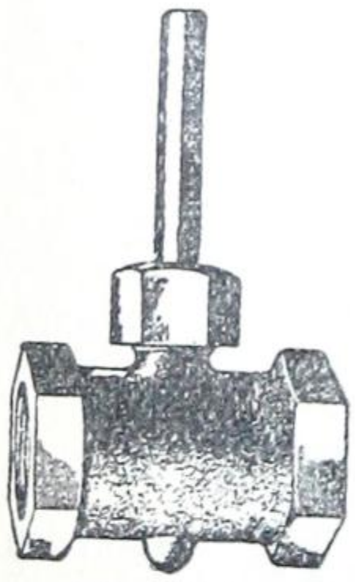


Fig. G56.

HANDY GATE.

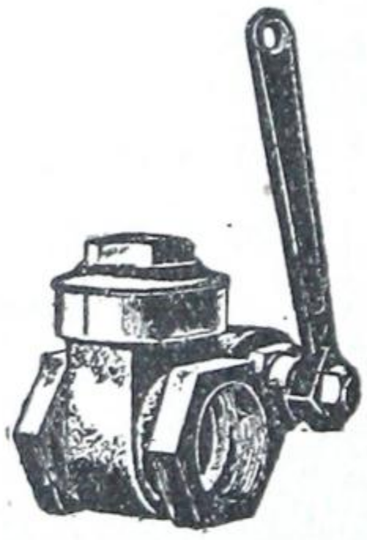


Fig. G57.

THROTTLE.

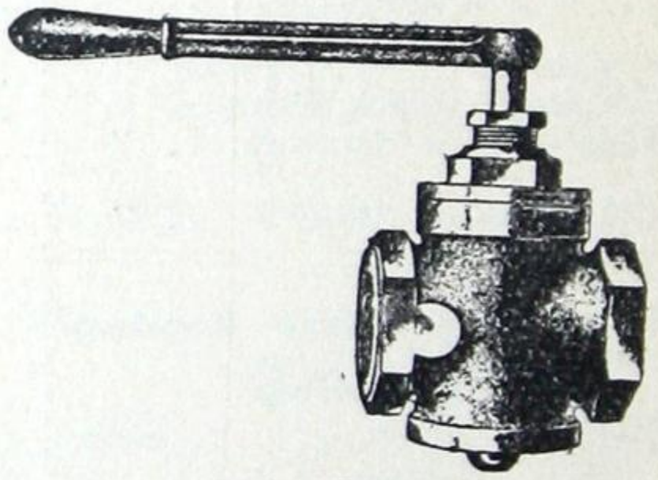


Fig. G58.

SIZE.			⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Steam Stop Cocks, Sq. Head..		ea.	$ .85	$ .85	$1.00	$1.25	$1.70	$2.35	$3.70	$4.85	$7.30	$14.50	$22.50
" " " Flat	"												
" " " Sq. Head, Stop on key	"		1.00	1.00	1.15	1.40	1.90	2.55	3.95	5.15	7.65	15.00	23.35
" " " Sq. Head, Three-way	"		.....	2.10	2.10	2.50	3.00	3.75	5.75	7.15	11.00	18.75	26.00
Asbestos Packed Cocks, Screwed	"		.....	6.70	6.70	6.70	8.40	11.20	16.00	20.70	32.00	53.00	75.00
Butterfly Valve.....	"		.....	.....	.....	.....	3.10	4.40	5.65	6.75	10.00	13.75	21.00
Handy Gate.....	"		.....	.....	.....	2.50	3.00	4.00	5.00	7.00	10.00	19.00	29.00
Throttle Valve.....	"		.....	.....	.....	.....	10.00	11.50	14.00	20.00	25.00	35.00	.....

STANDARD IRON BODY COCKS.

SQUARE HEAD, Screwed.

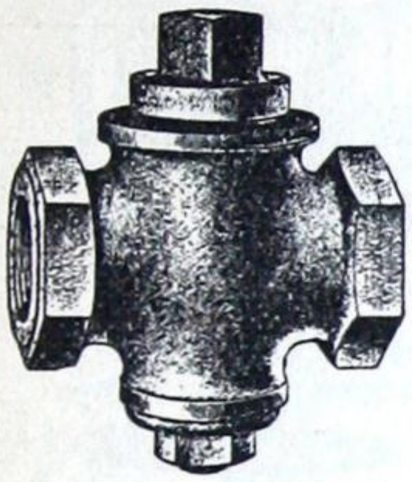


Fig. G61.

SQUARE HEAD, Flanged.

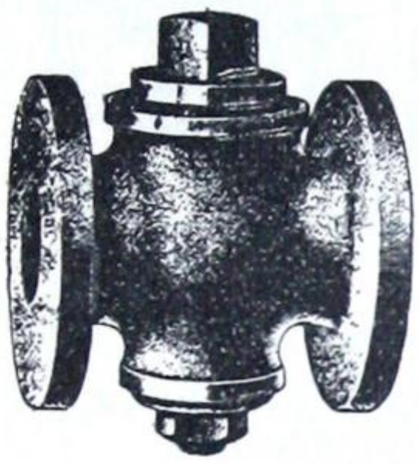


Fig. G62.

FLAT HEAD, Screwed.

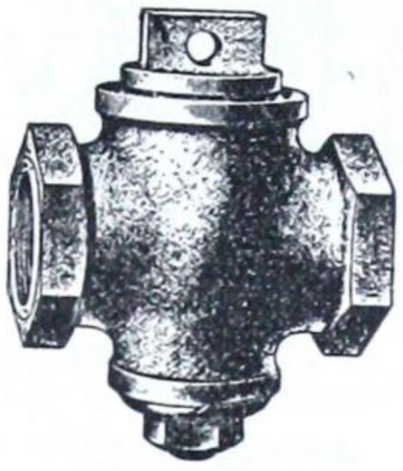


Fig. G63.

SQUARE HEAD, 3-way, Screwed.



Fig. G64.

ASBESTOS PACKED COCKS—IRON.

Screwed.

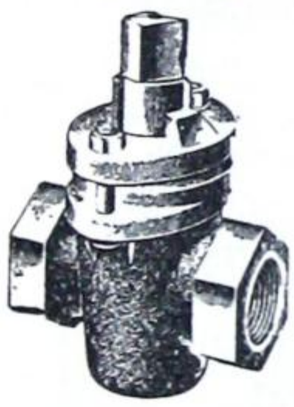


Fig. G66.

Flanged.

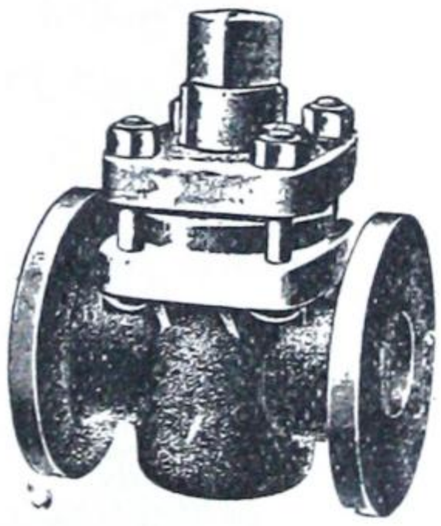


Fig. G67.

SIZE	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Square and Flat Head, all Iron....	.85	.90	1.05	1.30	1.60	1.95	2.70	4.40	6.75	12.00	15.50	32.00	45.00
Square & Flat Head, Iron Body, Brass Plug.....	1.25	1.30	1.60	1.90	2.65	3.75	5.25	8.75	13.00	27.50	36.50	67.00	94.00
Square Head, all Iron Flanged....	.....	.....	.....	2.25	2.75	3.25	4.25	6.25	9.50	15.00	19.00	36.00	50.00
Square Head, Iron Body, Brass Plug, Flanged.....	.....	.....	.....	3.00	3.75	5.00	7.00	10.50	15.75	30.00	40.00	70.00	100.00
Three Way, all Iron.....	.....	.....	1.65	1.80	2.05	2.65	3.65	5.35	7.50	14.00	19.00	36.50	52.00
" Iron Body, Brass Plug.....	.....	.....	2.20	2.40	3.10	4.50	6.25	9.75	13.75	30.00	40.00	71.50	100.00
Asbestos, Packed, Screwed.....	1.45	1.60	2.10	2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00	45.00	60.00
" " Flanged.....	.....	.....	.....	2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00	45.00	60.00

STANDARD IRON BODY

BRASS MOUNTED VALVES.

GLOBE VALVE, Screwed.

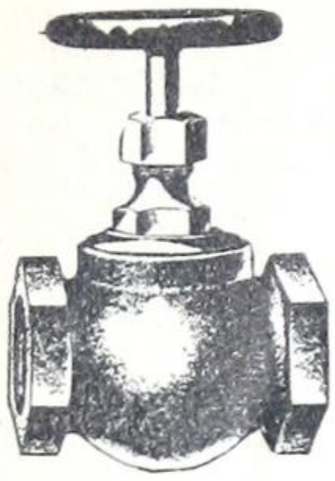


Fig. G71.

GLOBE VALVE, Screwed with Yoke.

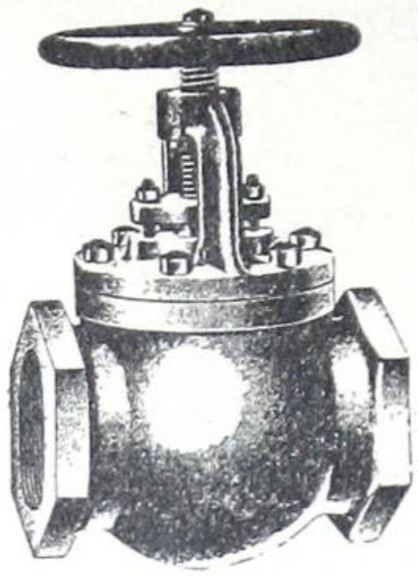


Fig. G72.

GLOBE VALVE, Flanged.

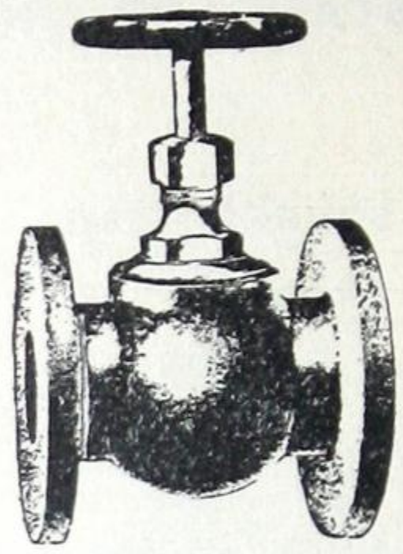


Fig. G73.

GLOBE VALVE, Flanged with Yoke.

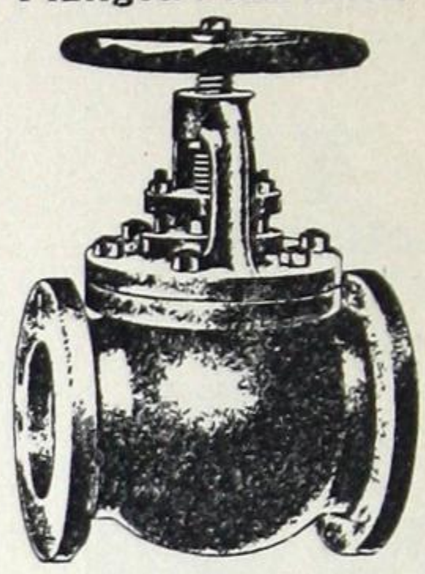


Fig. G74.

ANGLE VALVE, Screwed.



Fig. G75.

ANGLE VALVE, Screwed with Yoke.

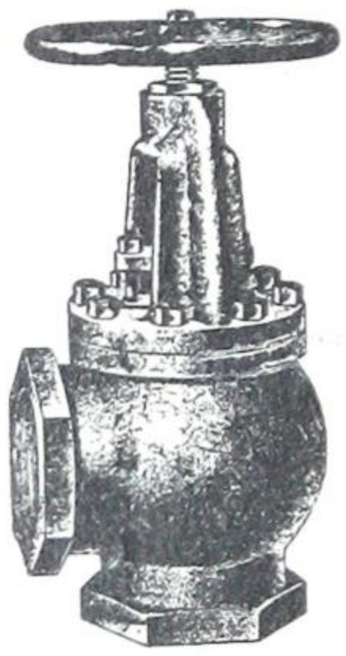


Fig. G76.

ANGLE VALVE, Flanged.

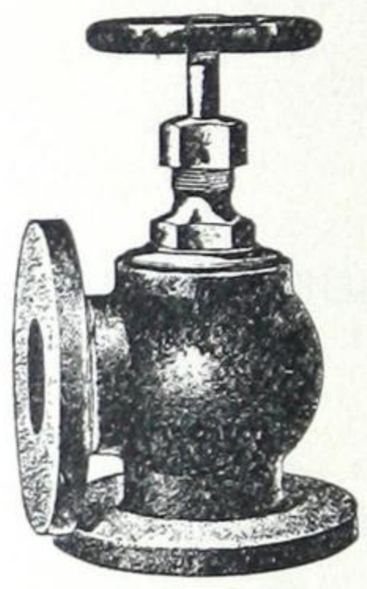


Fig. G77.

ANGLE VALVE, Flanged with Yoke.

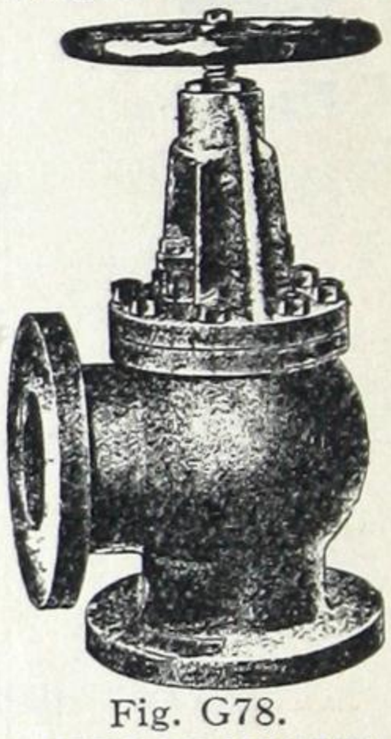


Fig. G78.

CROSS VALVE, Screwed.

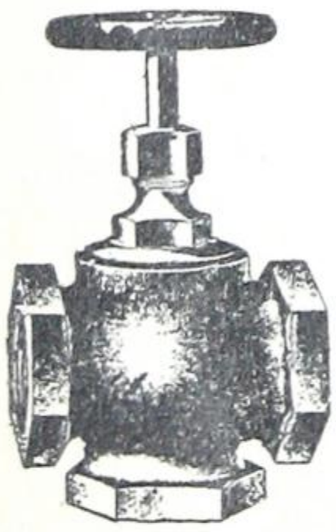


Fig. G79.

CROSS VALVE, Screwed with Yoke.

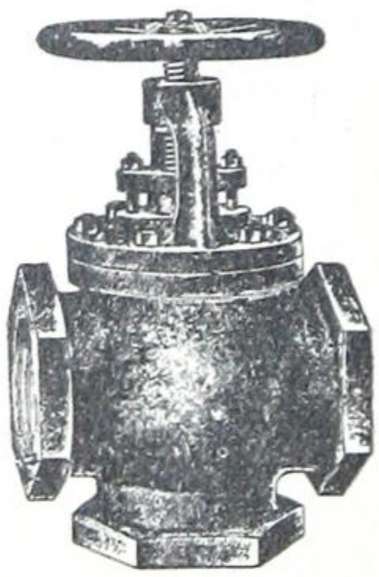


Fig. G80.

CROSS VALVE, Flanged.

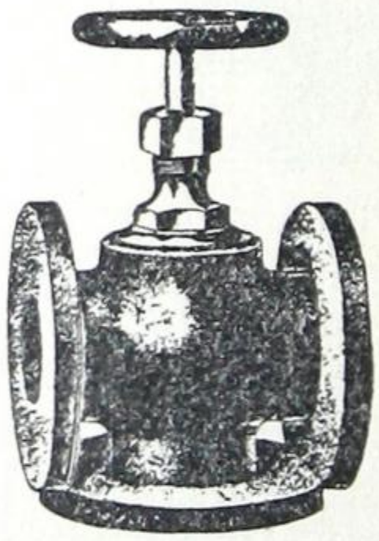


Fig. G81.

CROSS VALVE, Flanged with Yoke.

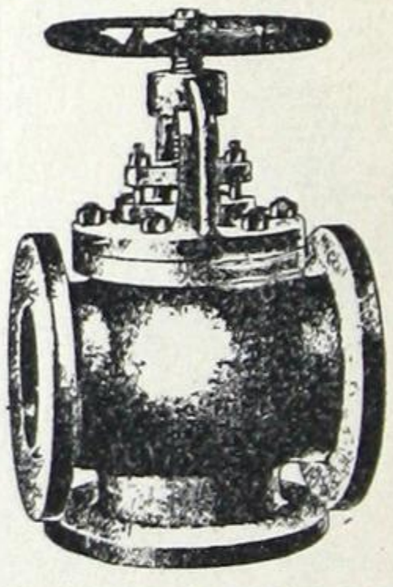


Fig. G82.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Globe or Angle, Screwed....	5.40	7.35	9.80	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " Flanged....	7.00	9.00	12.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " Screwed, with Yoke..	7.00	9.00	12.50	15.25	19.00	24.00	27.00	37.50	63.00	72.00	114.00	170.00
" " Flanged, with Yoke..	8.60	10.75	15.00	18.50	22.50	27.50	31.00	42.00	68.00	77.00	123.00	187.00
Cross, Screwed.....	6.50	9.00	12.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Flanged.....	9.00	11.75	16.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Screwed, with Yoke.	.....	.....	16.25	20.00	23.50	30.65	35.25	47.25	78.00	92.00	162.00	240.00
" Flanged, "	.....	.....	20.00	25.00	28.50	36.00	41.00	54.00	85.00	100.00	175.00	265.00

STANDARD IRON BODY.

BRASS MOUNTED VALVES.

HORIZONTAL CHECK, Screwed.

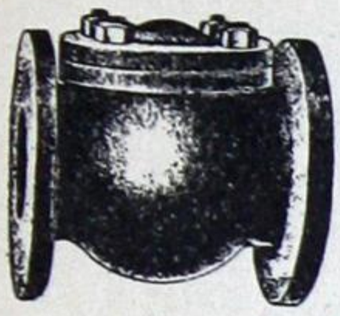


Fig. G86.

HORIZONTAL CHECK, Flanged.



Fig. G87.

ANGLE CHECK, Screwed.

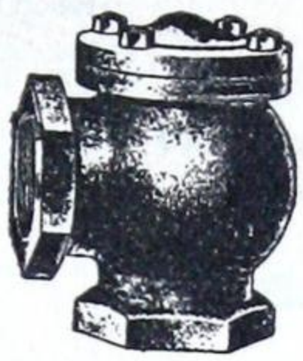


Fig. G88.

VERTICAL CHECK, Flanged.



Fig. G89.

SWING CHECK, Screwed.

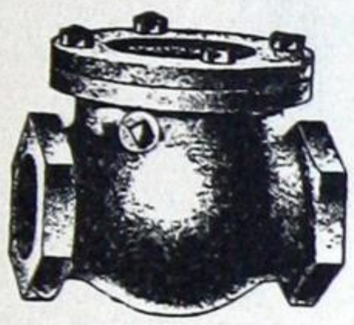


Fig. G90.

SWING CHECK, Flanged.



Fig. G91.

SWING CHECK, Bell Ends.



Fig. G92.

GATE VALVE, Screwed.



Fig. G96.

GATE VALVE, Flanged.

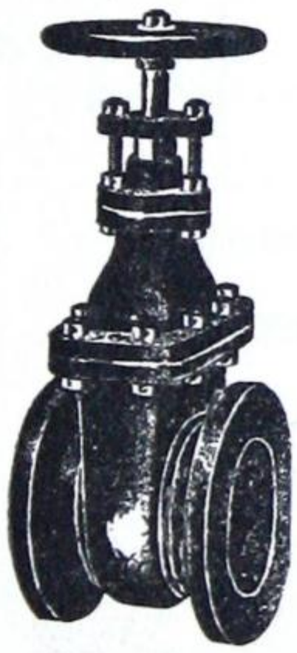


Fig. G97.

GATE VALVE, Bell Ends.

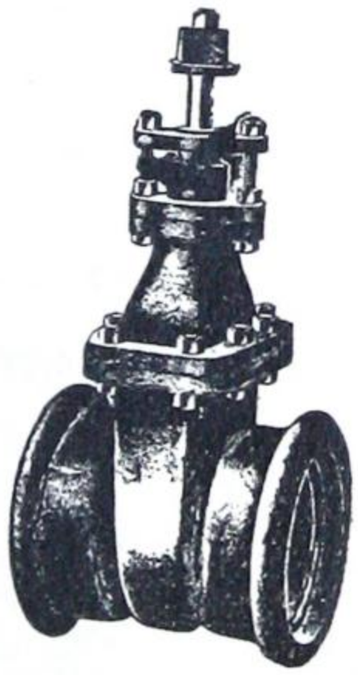


Fig. G98.

GATE VALVE, Flanged or Screwed, Outside Screw and Yoke.



Fig. G99.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Horizontal Check {Screwed. ea.	3.60	6.50	8.90	12.25	14.25	19.00	22.00	30.00	45.00	57.00	.....	105.00	155.00
Angle " {Flanged. "	5.25	8.25	11.50	15.50	18.00	22.50	26.00	35.00	50.00	62.00	.....	115.00	175.00
Vertical " {Screwed. "	.....	9.50	12.50	17.00	21.00	30.00	33.00	40.00	.....	.....	.....	.....	.....
{Flanged. "	.....	.....	.....	.....	.....	.....	.....	45.00	67.00	78.00	.....	135.00	.....
Swing Check, Screwed..... "	.....	12.00	13.50	17.50	20.00	26.00	30.00	36.00	55.00	70.00	.....	110.00	160.00
" " Flanged..... "	.....	14.50	17.00	21.00	24.00	30.00	34.00	41.00	60.00	75.00	.....	115.00	168.00
" " Bell Ends..... "	.....	.....	19.00	.....	27.00	.....	38.00	45.00	.....	82.50	.....	125.00	185.00
Gate Valve, Screwed..... "	10.00	11.50	14.00	17.00	19.00	24.00	27.50	32.50	45.00	54.00	76.00	90.00	125.00
" " Flanged..... "	12.00	13.50	16.50	19.50	23.00	28.00	31.50	36.50	49.00	58.00	81.00	95.00	133.00
" " Bell Ends..... "	10.00	.....	14.00	.....	19.00	.....	27.50	32.50	45.00	54.00	.....	90.00	125.00
" " O.S. & Y, Screw "	19.00	20.50	23.50	27.00	32.50	40.00	45.00	52.00	69.00	86.00	113.00	131.00	172.00
" " " Flanged.. "	21.00	22.50	26.00	29.50	36.50	44.00	49.00	56.00	73.00	90.00	118.00	136.00	180.00

STANDARD IRON BODY VALVES.

BRASS MOUNTED.

GATE VALVE.
With Sliding Stem and Lever. Screwed.

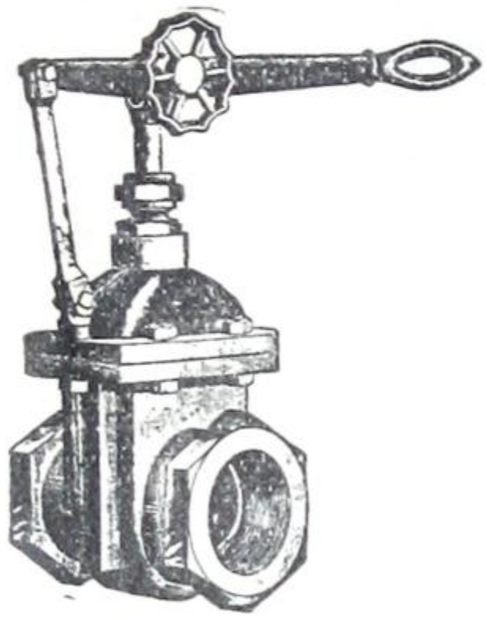


Fig. G101.

THROTTLE VALVE.

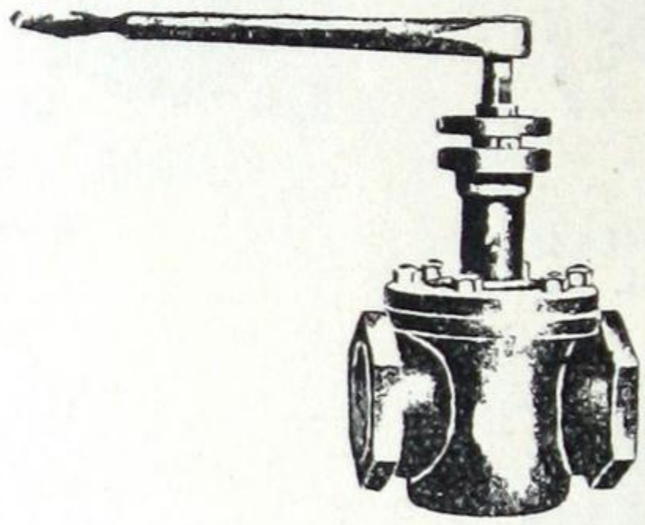


Fig. G102.

Size, Inches.....	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Gate Valve, S.S. & L., Screwed....	$17.50	$19.00	$22.00	$25.00	$30.00	$37.00	$42.00	$48.00	$64.00	$80.00	$105.00	$122.00	$160.00
Gate Valve, S.S. & L., Flanged....	19.50	21.00	24.50	27.50	34.00	41.00	46.00	52.00	68.00	84.00	110.00	127.00	168.00
Throttle Valve, Screwed.....	.....	30.00	40.00	50.00	60.00	.....	.....	.....	.....	.....	.....	.....	.....

EVERLASTING BLOW-OFF.



Fig. G103.

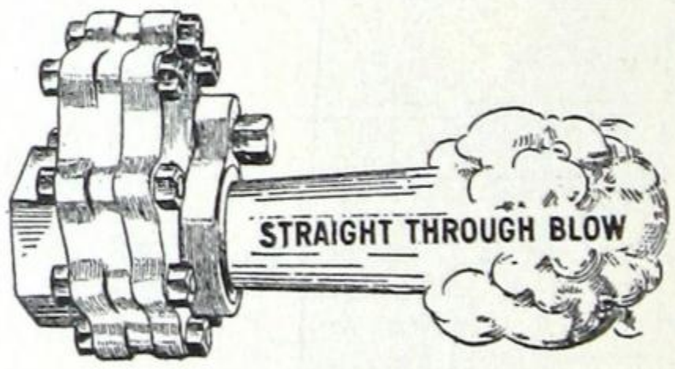


Fig. G103a.

Size, Inches.....	1	1¼	1½	2	2½	3
Screwed.....each	$15.00	$17.50	$20.00	$25.00	$30.00	$45.00
Flanged..... "	18.00	21.00	24.00	29.00	35.00	48.00

SIMPLEX SEATLESS BLOW-OFF VALVE.

Open. Closed.

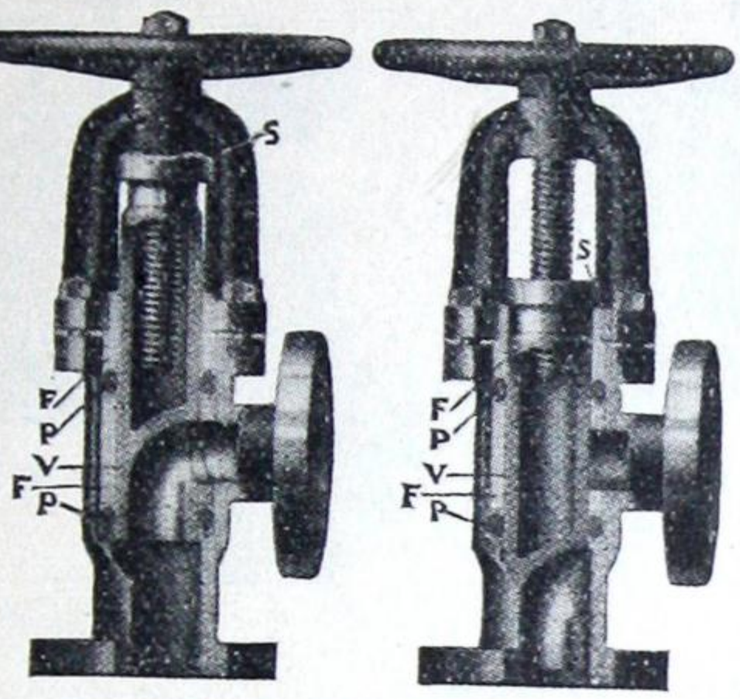


Fig. G104.

BLOW-OFF VALVE.

Angle Pattern.

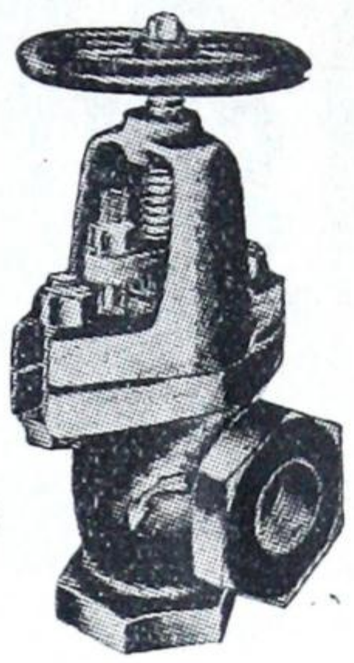


Fig. G105.

Size, Inches	¾	1	1¼	1½	2	2½	3
Simplex Seatless Blow-Off Valve	$24.00	$26.00	$28.00	$30.00	$38.00	$50.00	$64.00
Blow-Off Valve, Angle Pattern, Screwed or Flanged	.....	.....	.....	.....	15.00	20.00	30.00

BACK PRESSURE VALVES.

"JENKINS' EXCELSIOR"

Flanged.

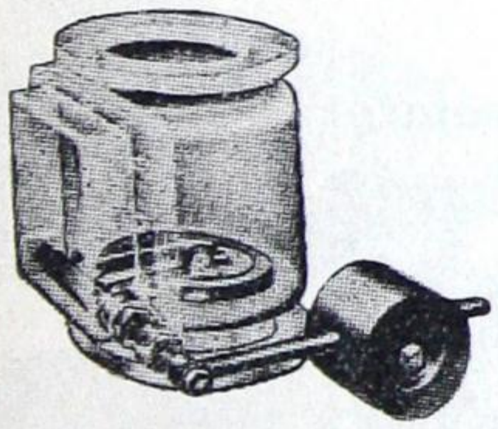


Fig. G106.

DAVIS' NOISELESS

Screwed.

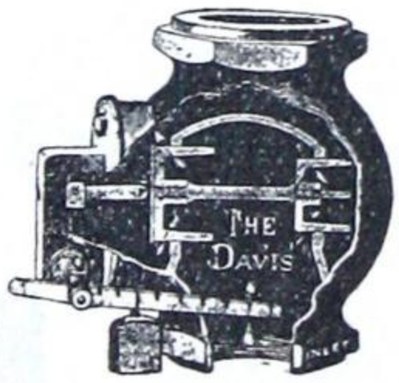


Fig. G107.

STANDARD OR JENKINS' ORDINARY.

Screwed.

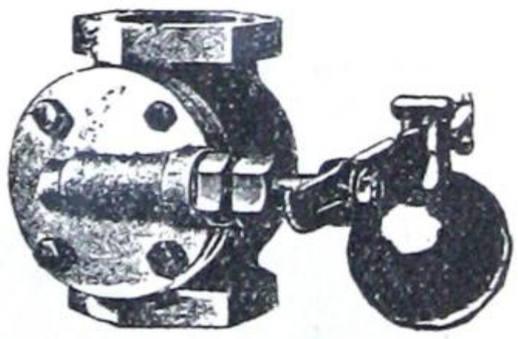


Fig. G108.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Excelsior B.P. Valve, Scr'd..	.....	15.00	18.00	21.00	24.00	30.00	33.00	43.00	57.00	.....	.....	.....	.....
" " " Fld.	.....	16.00	19.00	23.00	25.00	31.00	34.50	44.50	57.00	71.00	88.00	102.00	143.00
Davis' " Scrd. or Fld..	14.00	16.00	18.00	22.00	25.00	30.00	40.00	60.00	80.00	100.00	120.00	145.00	220.00
Stand, B.P. Valve, Screwed..	11.00	13.00	15.00	19.00	22.50	28.50	33.50	43.00	70.00	85.00	.....	120.00	180.00
" " " Flanged..	.....	15.00	17.50	22.00	26.00	32.00	37.00	47.00	75.00	90.00	.....	130.00	200.00
Jenkins' Ordy. B.P. Screwed.	8.00	9.00	11.00	14.00	16.00	18.00	24.00	32.00	.....	58.00	.....	.....	.....
" " " Flanged.	9.00	10.00	13.00	16.00	18.00	22.00	26.00	34.00	.....	58.00	.....	.....	.....

WATER RELIEF VALVES.

STANDARD.
Iron Body, Brass Mounted.

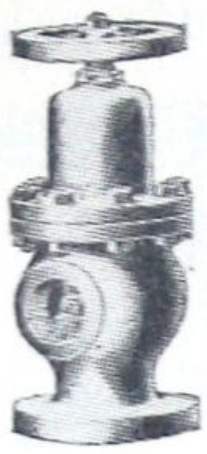


Fig. G111.

STANDARD.
Brass.



Fig. G112.

DAVIS' SEMI-BALANCE.
Bevel Seated.

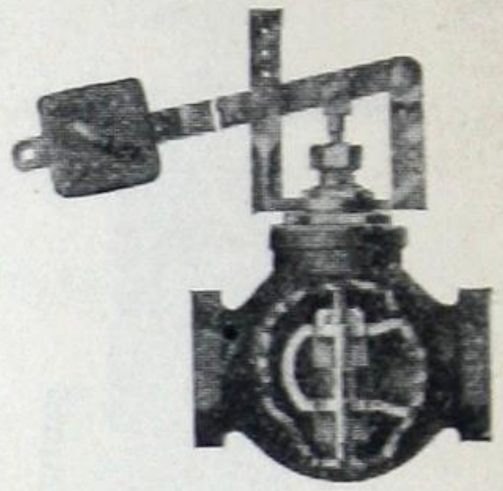


Fig. G113.

WATER RELIEF VALVES.

SIZE	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Standard Iron Body	.....	.....	.....	.....	.....	.....	42.00	50.00	68.00	75.00	100.00	120.00	170.00
" Brass	11.00	11.00	13.00	16.00	19.00	29.00	46.00	77.00	105.00	135.00	.....	.....	.....
" Brass with Cap and Lock-up attachment	12.00	12.00	14.00	17.00	21.00	31.00	49.00	.....	.....	.....	.....	.....	.....
Davis' Iron Body, Screwed or Flanged	13.00	13.00	16.00	19.00	22.00	28.00	38.00	50.00	60.00	70.00	80.00	90.00	110.00

Fig. 112 is also suitable for Cylinder Relief. Be careful to state pressure at which Valves are to be set.

FLOAT VALVES.

DAVIS.

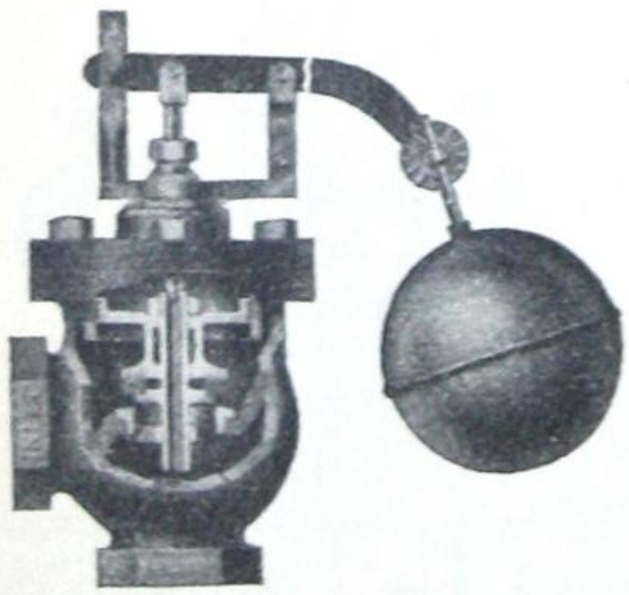


Fig. G114.

FORD.

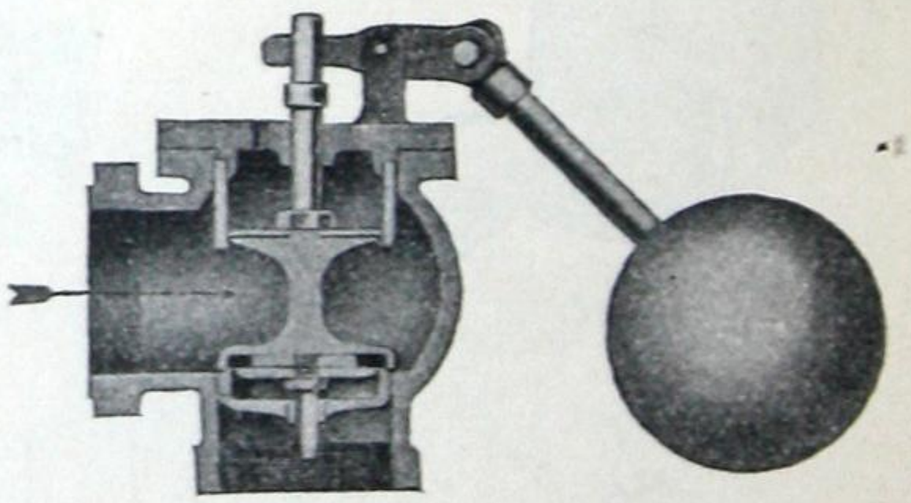


Fig. G115.

Size, Inches	¾	1	1¼	1½	2	2½	3	4	5	6
Davis' Float Valve	$30.00	$32.00	$34.00	$40.00	$50.00	$70.00	$90.00	$130.00	$160.00	$200.00
Ford Float Valve	.....	20.00	24.00	30.00	40.00	50.00	70.00	100.00	160.00	220.00

SAFETY VALVES.—Brass.

STANDARD OR JENKINS'
Cross with Ball and Lever.
Screwed.

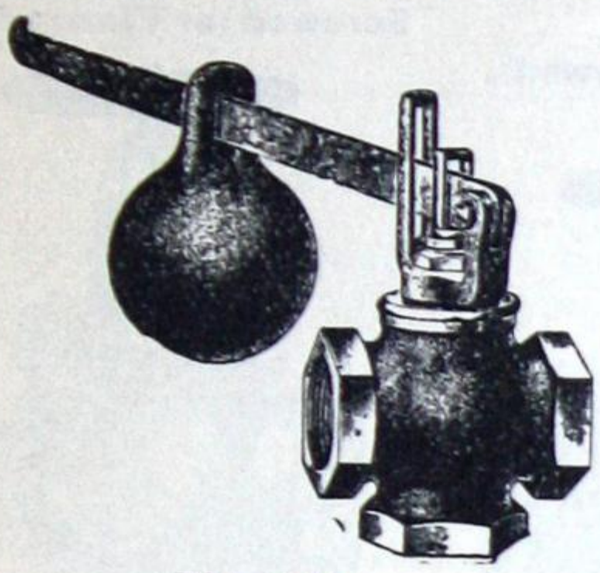


Fig. G116.

LOCK-UP POP
Perforated Cap.



Fig. G117.

STANDARD POP
Side Outlet.



Fig. G118.

LOW PRESSURE POP.

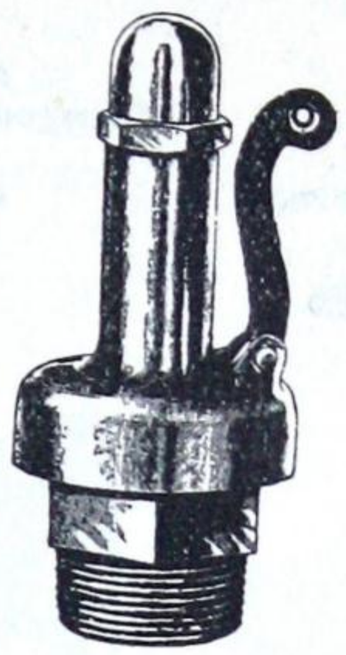


Fig. G119.

CYLINDER RELIEF. or Snifting Valve.



Fig. G120.

SIZE	½	¾	1	1¼	1½	2	2½	3
Standard Cross.....Screwed	$3.25	$3.90	$4.70	$7.15	$9.00	$12.50	$22.50	$33.50
Jenkins' Cross..... "	4.00	5.00	6.00	9.00	11.00	16.00	.....	.....
Lock-up Pop, Perforated Cap..... "	9.75	12.00	14.25	17.50	22.75	33.00	.....	.....
Stand. Pop, Side Outlet..... "	11.00	11.00	13.00	16.00	19.00	29.00	46.00	.....
" " " Lock-up..... "	12.00	12.00	14.00	17.00	21.00	31.00	49.00	.....
Low Pressure Pop..... "	6.00	6.00	6.75	7.75	9.50	13.00	28.00	41.00
Cylinder Relief..... "	11.00	11.00	13.00	16.00	19.00	29.00	46.00	77.00

IRON BODY, BRASS MOUNTED.

STANDARD CROSS.
With Ball and Lever.
Screwed.

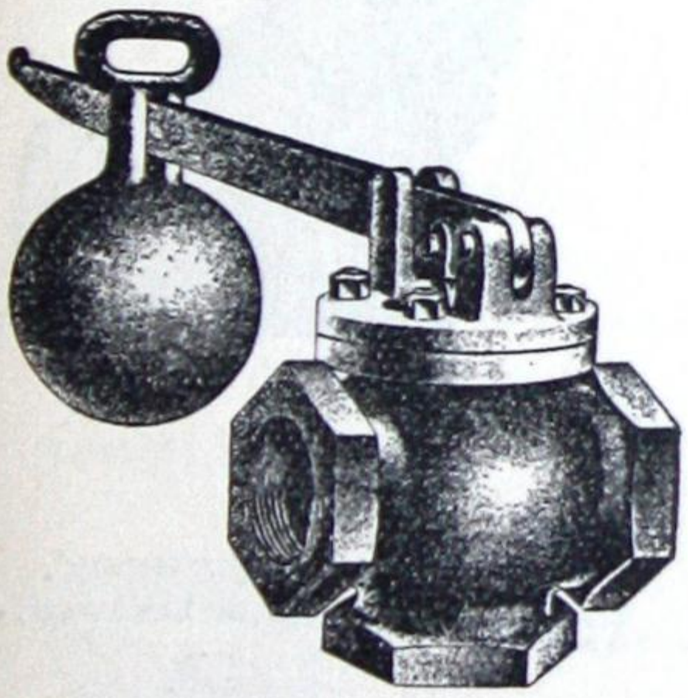


Fig. G121.

JENKINS' CROSS.
Ball and Lever Flanged.

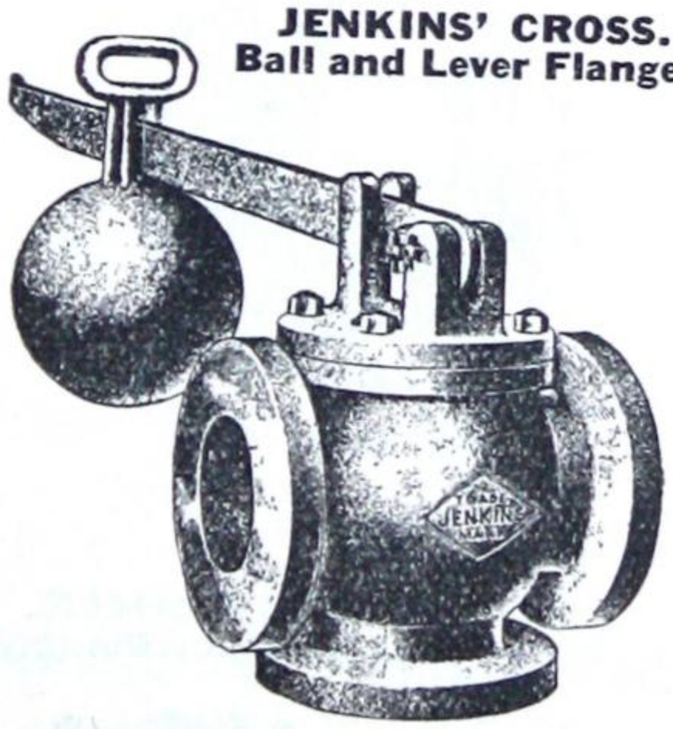


Fig. G122.

LOCK-UP POP.
Screwed or Flange Base.

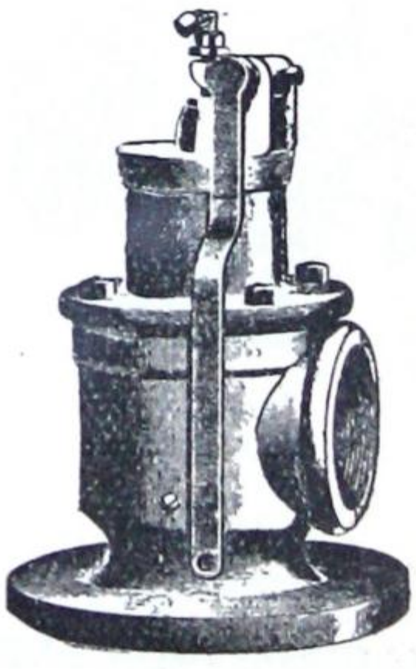


Fig. G123.

SIZE..	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Standard Cross, Screwed...	4.00	5.00	5.80	7.80	13.25	17.25	23.00	28.75	34.50	41.50	57.75	93.50	132.00
" " Flanged...	.....	.....	.....	10.25	16.00	21.50	27.50	34.00	40.00	48.00	65.00	100.00	140.00
Jenkins' " or Angle, Scd..	5.00	7.00	8.00	11.00	17.00	22.00	31.00	38.00	47.00	55.00	73.00	.....	.....
" " " Fld..	.....	.....	.....	13.00	19.00	25.50	34.00	42.00	52.00	62.00	80.00	.....	.....
Lock-up Pop.....	.....	.....	.....	.....	55.00	75.00	90.00	110.00	135.00	170.00	.....	.....	.....

JENKINS' STANDARD IRON BODY VALVES.

COMPOSITION MOUNTED.

GLOBE.
Screwed (or Flanged).

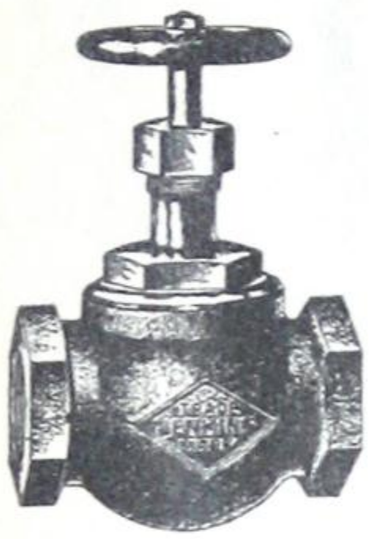


Fig. G126.

ANGLE.
Flanged (or Screwed).

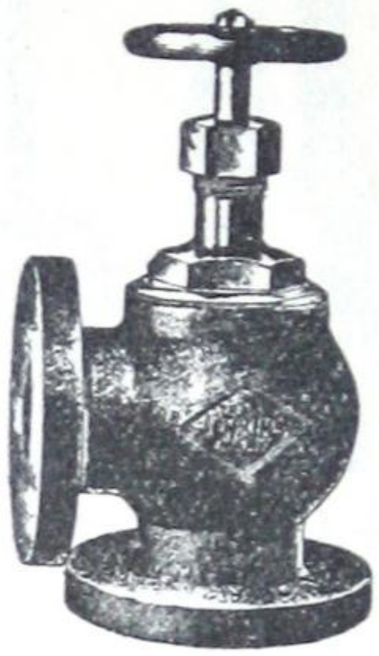


Fig. G127.

GLOBE.
With Yoke.
Flanged (or Screwed).

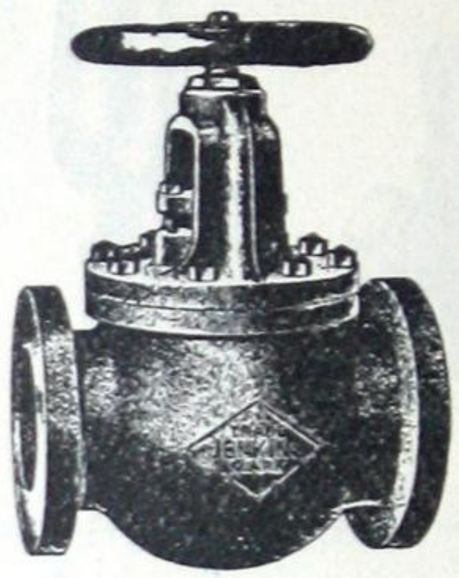


Fig. G128.

ANGLE.
With Yoke,
Screwed (or Flanged).



Fig. G129

CROSS.
With Yoke.
Screwed.

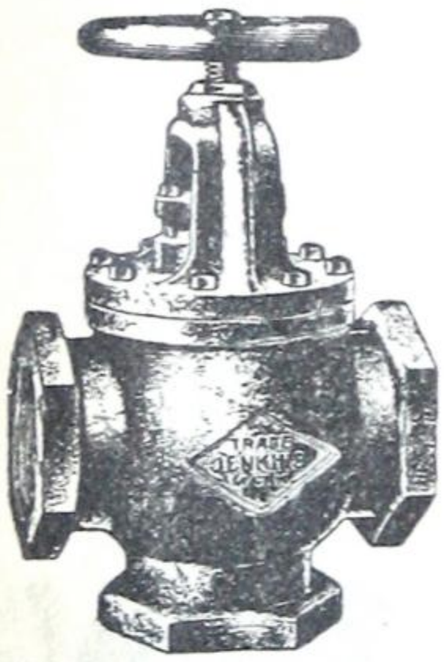


Fig. G131.

CROSS.
With Yoke.
Flanged.

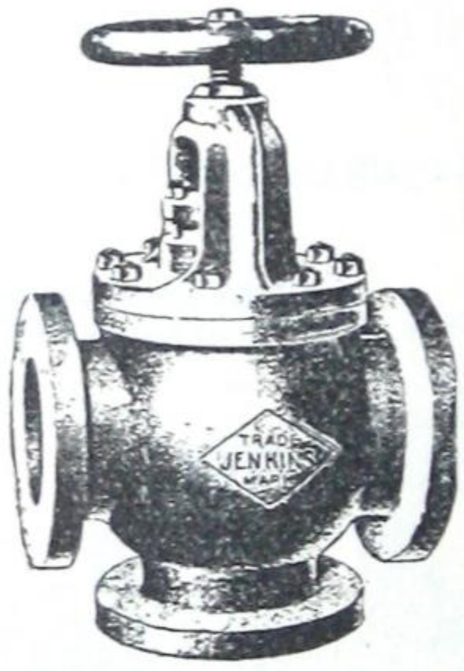


Fig. G132.

Y OR BLOW-OFF.
Screwed (or Flanged).
2″ to 3″

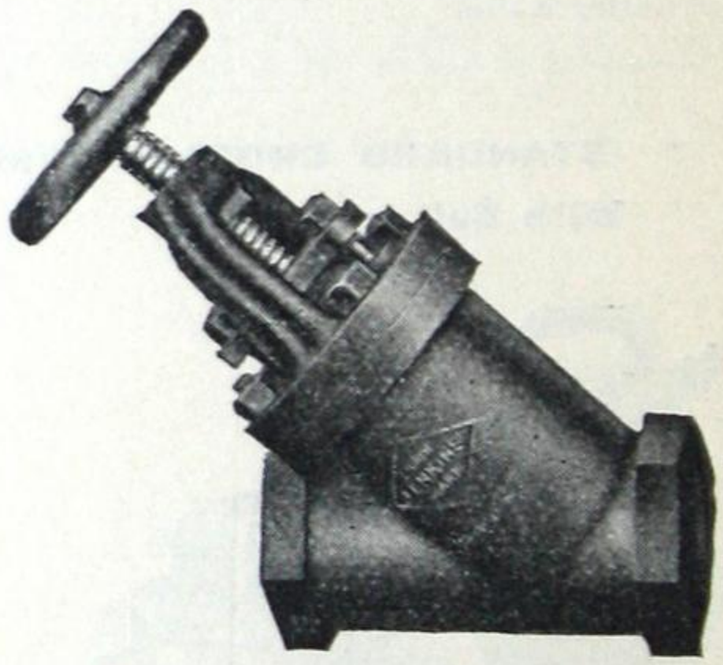


Fig. G133.

HORIZONTAL CHECK
Flanged (or Screwed).



Fig. G136.

ANGLE CHECK.
Screwed (or Flanged).

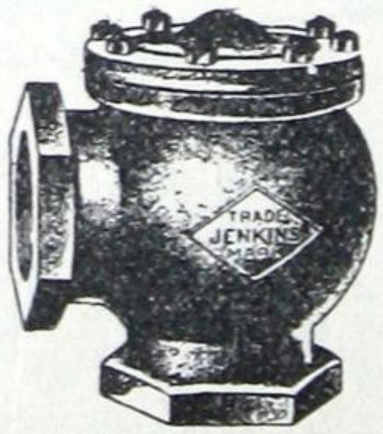


Fig. G137.

SWING CHECK.
Flanged (or Screwed).

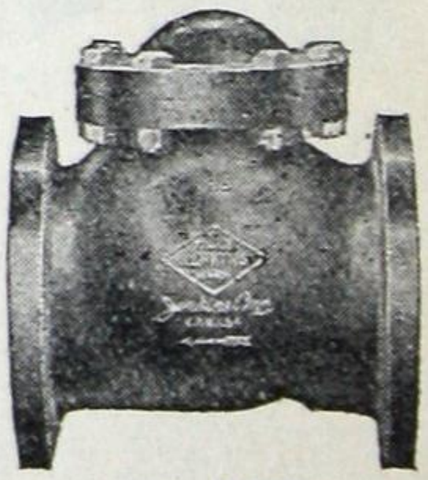


Fig. G139.

JENKINS' STANDARD IRON BODY VALVES.

COMPOSITION MOUNTED.

STANDARD.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Globe or Angle, Screwed.....	7.25	11.00	16.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " Flanged.....	8.50	13.00	18.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Globe or Angle, with Yoke, Screwed.....	10.00	12.00	16.75	19.50	24.00	32.00	40.00	48.00	80.00	90.00	121.00	130.00	185.00
Globe or Angle with Yoke, Flanged.....	11.75	14.00	18.50	21.50	26.00	34.00	42.00	50.00	80.00	90.00	121.00	130.00	185.00
Globe or Angle with By-pass.	.....	.....	.....	.....	38.00	47.00	60.00	66.00	100.00	110.00	144.00	154.00	224.00
Cross with Yoke, Screwed...	.....	16.00	21.00	26.00	30.00	42.00	45.00	58.00	90.00	100.00	.....	.....	.....
" " Flanged...	.....	19.00	24.00	29.00	33.00	45.00	48.00	62.00	90.00	100.00	.....	.....	.....
Y. or Bloff-off, Screwed.....	11.00	15.00	20.00	28.00	35.00	.....	59.00	70.00	.....	115.00	.....	.....	.....
" " Flanged.....	13.00	18.00	23.00	31.00	38.00	.....	64.00	70.00	.....	115.00	.....	.....	.....
Horizontal Angle or Vert'l Check.. {Screwed..	8.00	11.00	14.00	17.00	20.00	25.00	30.00	40.00	65.00	80.00	.....	.....	.....
{Flanged..	10.00	13.00	16.50	20.00	23.00	28.00	33.00	43.00	65.00	80.00	.....	.....	.....
Swing Check, Screwed.....	~~13.50~~ 13.00	13.50	15.50	20.00	23.00	.....	34.00	40.00	61.00	77.50	.....	120.00	.....
" " Flanged.....	.....	16.00	19.00	23.50	27.00	.....	38.00	45.00	66.00	82.50	.....	125.00	.....

EXTRA HEAVY.

250 Pounds Steam Working Pressure.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Globe or Angle, Screwed....	16.00	19.00	24.00	28.00	38.00	44.00	53.00	70.00	100.00	110.00	165.00	180.00	230.00
" " Flanged....	18.00	21.00	26.00	30.00	40.00	46.00	55.00	73.00	100.00	110.00	165.00	180.00	230.00
" " with By-pass, Screwed or Fl'ged.	.....	.....	.....	.....	.....	.....	80.00	110.00	125.00	145.00	215.00	230.00	300.00

Cast Steel Valves with Monel Metal Trimmings for Super-Heated Steam.

Prices on Application.

ROUND HOLE.

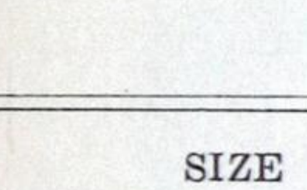


Fig. G141.

DISCS—JENKINS' & STEAM METAL.

OVAL HOLE.

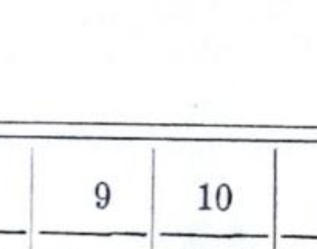


Fig. G142.

SIZE	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Jenkins', each	.06	.08	.08	.10	.12	.18	.24	.36	.48	.80	1.00	1.20	1.40	1.60	2.00	2.40	2.80	3.60	4.50	5.00
Steam Metal "	.14	.14	.16	.20	.22	.28	.30	.34	.60	.85	1.35	1.60	2.00	2.30	2.60	3.70	4.00	5.25	5.60	7.30

EXTRA HEAVY BRASS VALVES AND COCKS.

250 lbs. Working Pressure.

GATE.
Screwed.

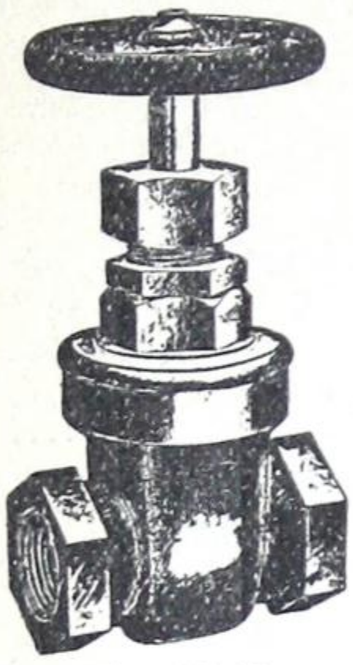


Fig. G146.

SWING CHECK.

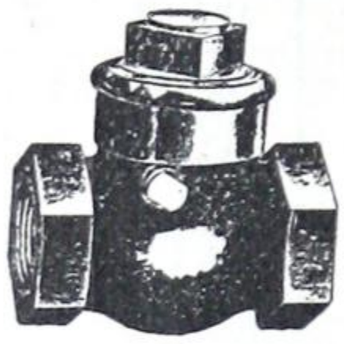


Fig. G147.

SQUARE HEAD.
Stop.

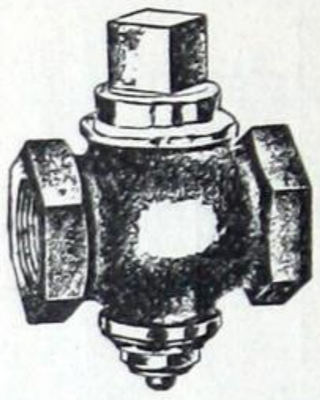


Fig. G148.

GLOBE.

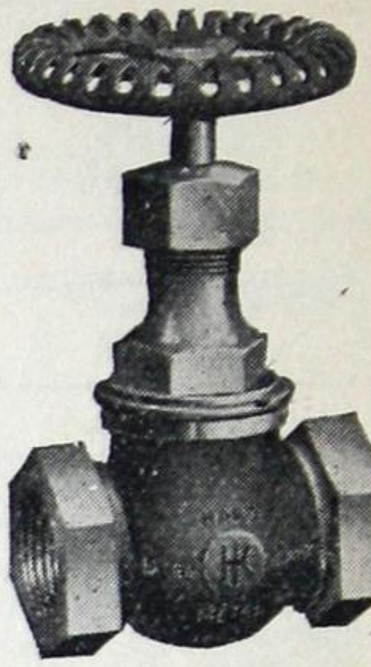


Fig. G149.

SIZE		½	¾	1	1¼	1½	2	2½	3
Gate, Screwed	each	$ 5.00	$ 6.00	$ 8.00	$11.25	$16.50	$23.00	$40.00	$ 65.00
" Flanged	"	.....	13.00	16.00	21.50	30.00	41.00	65.00	100.00
Check, Screwed	"	3.25	3.25	4.25	6.00	7.50	12.00	25.00	.....
Square Head Stops, Screwed	"	1.75	2.40	3.60	6.00	7.75	11.50	23.00	35.00
Globe or Angle, Screwed	"	1.90	2.50	3.50	5.00	7.00	11.00	20.00	29.00

EXTRA HEAVY IRON BODY VALVES.

BRASS MOUNTED.—250 lbs. Working Pressure.

GATE.
Flanged.

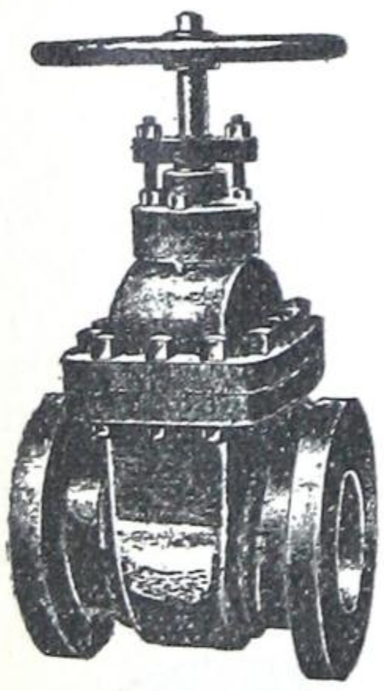


Fig. G151.

GATE.
Outside Screw and Yoke.
Flanged.

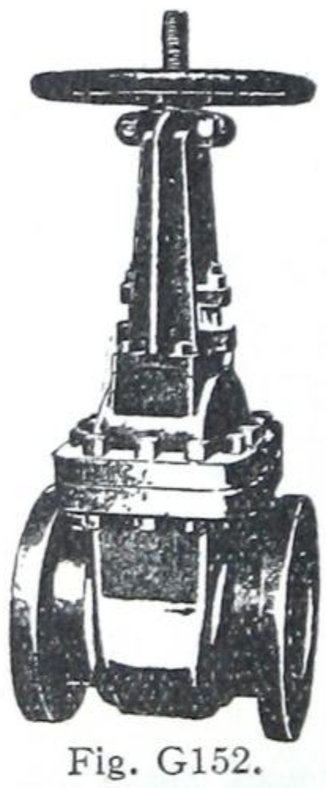


Fig. G152.

GLOBE.
Flanged.

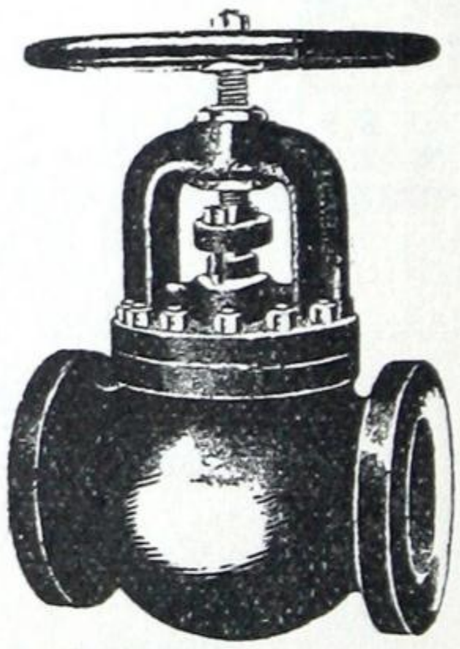


Fig. G153.

CHECK.
Flanged.

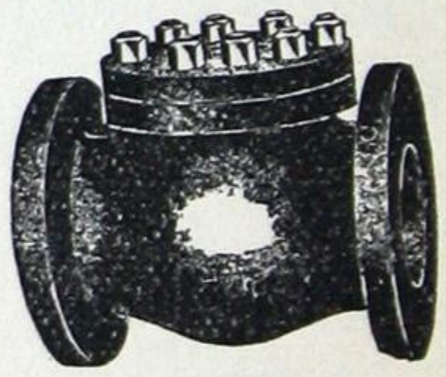


Fig. G154.

SIZE		1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Gate, Screwed		24.00	25.00	27.50	33.00	45.00	57.00	60.00	77.00	85.00	100.00	125.00	155.00	225.00	250.00	.....
" Flanged		26.50	27.50	30.00	35.50	48.00	60.00	65.00	82.00	90.00	107.00	132.00	162.00	232.00	258.00	335.00
Gate O.S. & Y Sc'd.		32.00	33.00	35.50	41.00	54.00	67.00	72.00	92.00	100.00	115.00	140.00	180.00	250.00	275.00	.....
" " Fl'gd		34.50	35.50	38.00	43.50	57.00	70.00	77.00	97.00	105.00	122.00	147.00	187.00	257.00	283.00	390.00
Globe	Screwed	.....	.....	26.00	33.00	37.00	42.00	46.00	56.00	61.00	75.00	95.00	114.00	.....	190.00	.....
Angle	Flanged.	.....	.....	27.50	35.00	40.00	45.00	50.00	60.00	65.00	80.00	100.00	120.00	.....	200.00	300.00
Globe & Angle with By-Pass, Flanged		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	150.00	.....	250.00	350.00
Check, Screwed		.....	.....	15.00	20.00	28.00	36.00	41.00	49.00	54.00	66.00	84.00	100.00	.....	170.00	.....
" Flanged.		.....	.....	17.00	22.00	30.00	38.00	44.00	52.00	57.00	70.00	88.00	105.00	.....	175.00	250.00

GLOBE.
Screwed.

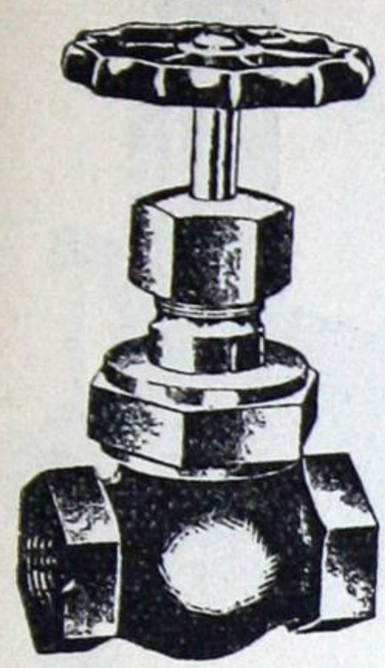


Fig. G157.

DOUBLE EXTRA HEAVY VALVES.

800 lbs. Working Water Pressure.

HARD METAL.

SIZE	⅜	½	¾	1	1¼
Gate, Screwed.....	....	$7.50	$9.00	$12.00	$15.50
Globe "	6.00	6.00	7.00	9.00	13.00
Check "	5.00	5.00	6.00	8.00	11.00

CHECK
Screwed.

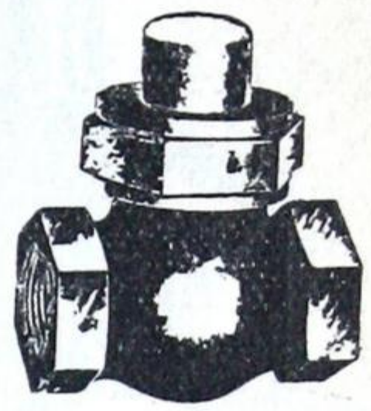


Fig. G158.

GATE.
Screwed.

IRON BODY—HARD METAL SEATS.

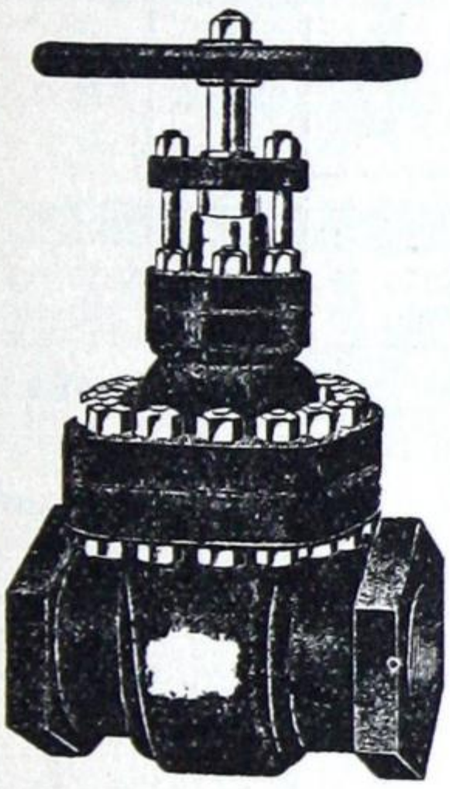


Fig. G161.

SWING CHECK.
Flanged.



Fig. G162.

SIZE	1½	2	2½	3	4	5	6	7	8	10
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Gate, Screwed.....	18.00	22.50	34.00	48.00	65.00	90.00	115.00	.....	.....	.....
" Flanged.....	20.00	25.50	39.00	53.00	70.00	98.00	125.00	170.00	180.00	300.00
" with By-Pass, Flanged.....	.....	.....	.....	.....	.....	.....	140.00	195.00	210.00	330.00
Check, Screwed.....	.....	.....	30.00	40.00	55.00	75.00	110.00	150.00	190.00	240.00
" Flanged.....	.....	.....	30.00	40.00	55.00	75.00	110.00	150.00	190.00	240.00

GLOBE.

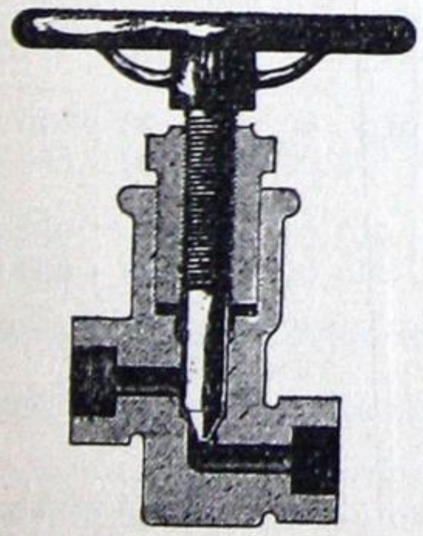


Fig. G164.

HYDRAULIC VALVES.

For 5,000 lbs. Pressure.

SIZE	½	¾	1	1¼	1½
Globe or Check.....each	$17.50	$23.50	$32.25	$48.00	$68.50

CHECK.

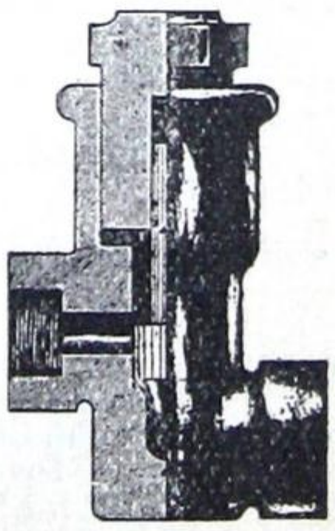


Fig. G165.

REGULATORS.

DAVIS' STEAM PRESSURE
For up to 200 lbs.

No. 1.

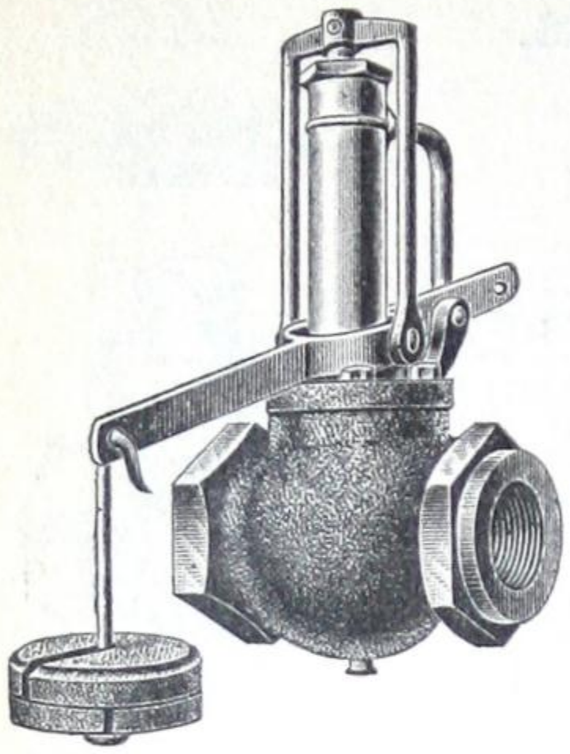


Fig. G166.

Davis No. 1 will reduce any Initial pressure 200 lbs. or less and pressure on reducing side may be as low as 1 pound if weighted at opposite end of lever.

Always specify Initial pressure and delivery pressure.

Sizes up to 1¼ have Bronze bodies, sizes 1½ and larger have iron bodies; up to 1½" Screwed ends; 2 to 6, Screwed or Flanged; 7 and over, Flanged only.

No. 3.—Sizes listed are outlet end; Inlet end is one-half outlet size. This Regulator is specially designed for extremely low pressures.

Sizes, 1½ x 3 and 2x 4, Screwed ends only; 2½ x 5 & 3 x 6, Inlet Screwed, outletFlanged; 4 x 8 & larger, Flanged ends.

Lug is cast on body for Dash pot where delivery is subject to pulsation.

No. 3.

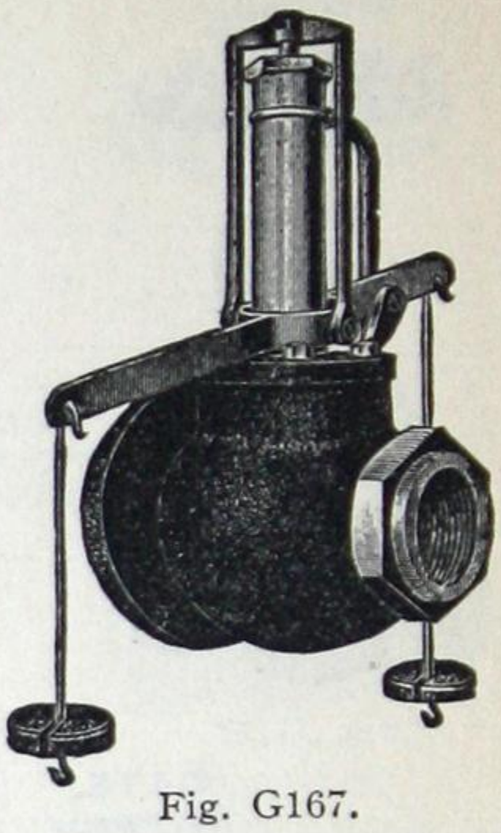


Fig. G167.

SIZE.		½	¾	1	1¼	1½	2	2½	3
Davis' No. 1	.....	$40.00	$40.00	$44.00	$48.00	$50.00	$60.00	$70.00	$80.00
Davis' No. 3	.....	.....	.....	.....	.....	.....	.....	.....	80.00
	3½	4	4½	5	6	7	8	10	12
Davis' No. 1	$100.00	$120.00	$140.00	$150.00	$200.00	$270.00	$350.00	$550.00	$800.00
Davis' No. 3	.....	100.00	.....	130.00	170.00	200.00	270.00	390.00	560.00

KIELEY EUREKA "B."

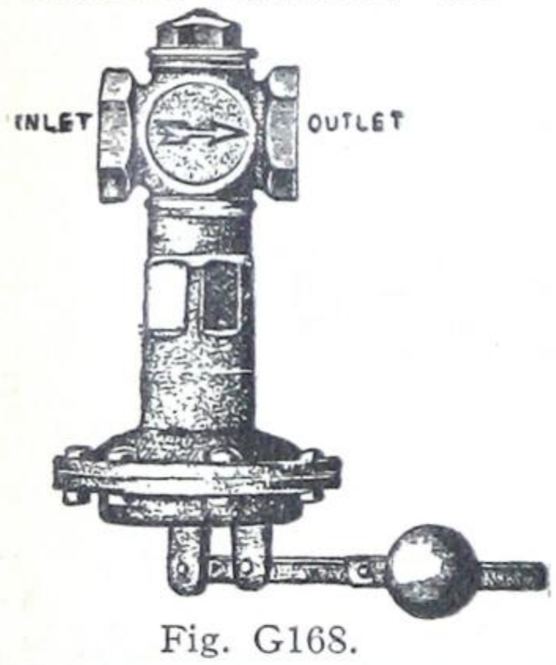


Fig. G168.

KIELEY "D."

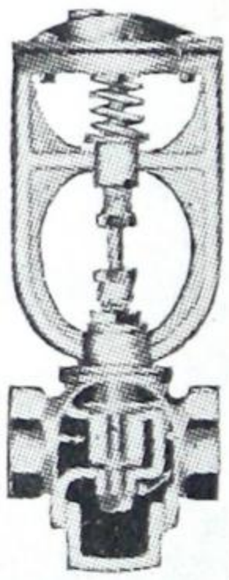


Fig. G169.

KIELEY "E."

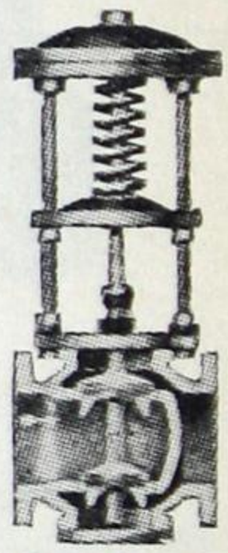


Fig. G170.

SIZE	⅜	½	¾	1	1¼	1½	2	2½	3
Eureka	.....	.....	$40.00	$44.00	$56.00	$70.00	$88.00	$114.00	$144.00
" Reducing	.....	.....	.....	.....	.....	.....	66.00	85.00	107.00
Kieley D	$44.00	$44.00	48.00	52.00	60.00	70.00	.....	.....	.....
" E	.....	.....	.....	52.00	60.00	70.00	88.00	114.00	144.00
" " Reducing	.....	.....	.....	.....	.....	.....	66.00	85.00	107.00
SIZE		3½	4	5	6	7	8	10	12
Eureka	.....	$170.00	$200.00	$270.00	$360.00	$450.00	$550.00	$700.00	$940.00
" Reducing	.....	.....	144.00	192.00	252.00	.....	375.00	484.00	650.00
Kieley D	.....	.....	.....	.....	.....	.....	.....	.....	.....
" E	.....	170.00	200.00	270.00	360.00	450.00	550.00	700.00	940.00
" " Reducing	.....	.....	144.00	192.00	252.00	.....	375.00	484.00	650.00

All openings up to 2" Screwed only; all openings 2½ and larger, Flanged only. List of reducing sizes are for Outlet end; Inlet end one-half outlet size.

Eureka for Steam as high as 125 lbs. pressure side to less than 15 pounds and as low as 1 pound on reducing side.

Kieley D for Steam reducing to above 5 pounds and up to 100 pounds.

Kieley E for Steam, Air, Water or Gas reducing to above 10 lbs. and less than ⅔ of the Initial pressure.

In ordering, always give high or Initial pressure and the Low or Reducing pressure.

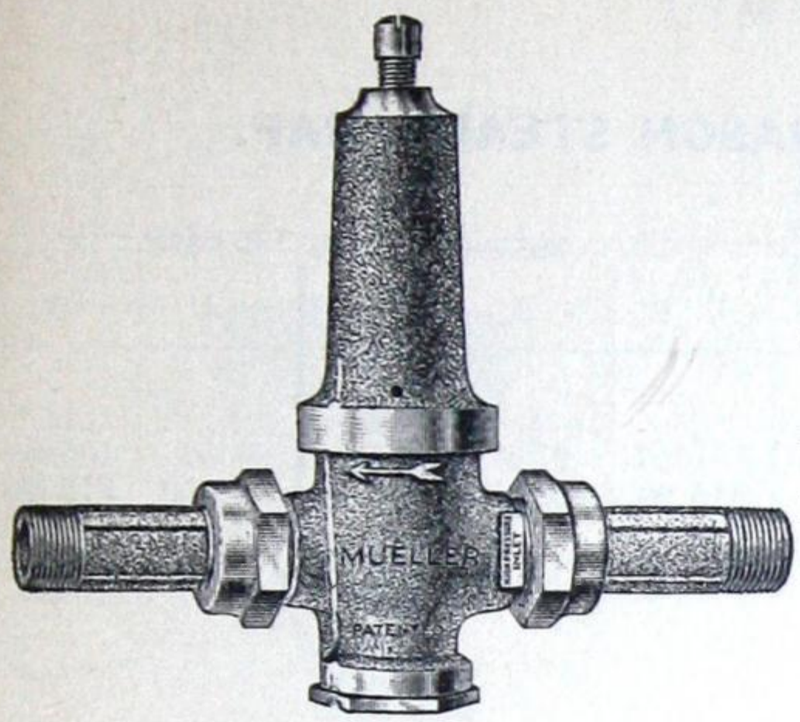


Fig. G171.

MUELLER WATER PRESSURE REGULATOR.

SIZE	½	¾	1	1¼	1½	2	2½
Price Each.....	$7.75	$8.00	$11.35	$16.45	$28.60	$39.20	$77.60

Made up to 20″. Prices on application.

DAMPER REGULATORS.

LOW PRESSURE.

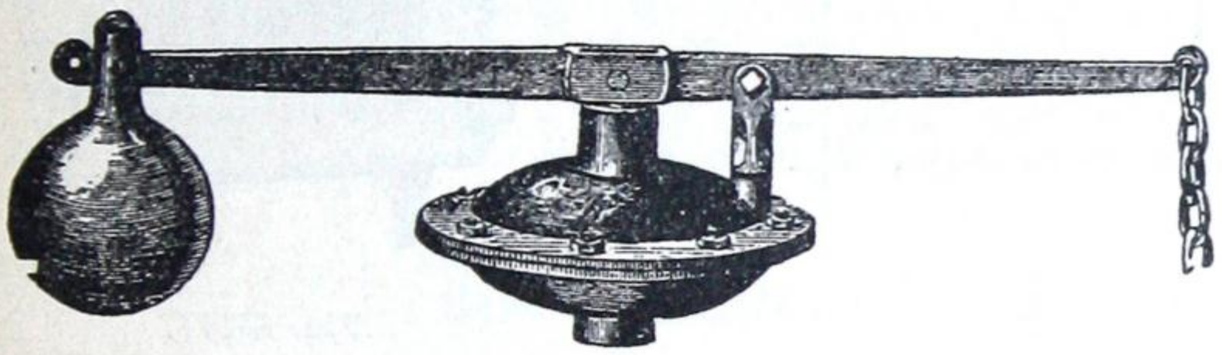


Fig. G172.
Each $8.00

Extra Rubber Diaphragms, each $2.00.

DAVIS.

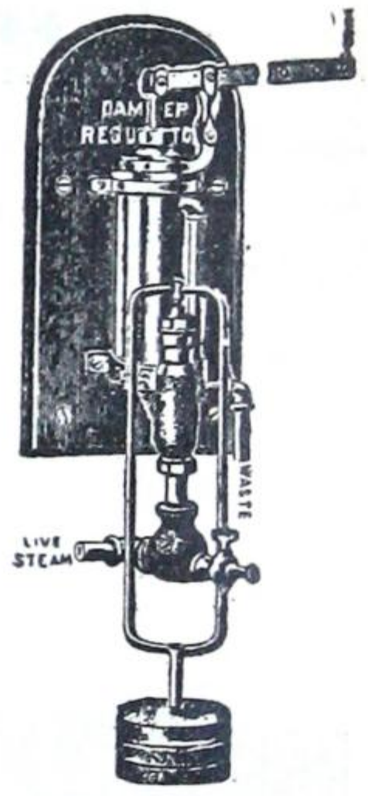


Fig. G173.
Each $50.00

KIELEY OIL & GREASE Extractor.

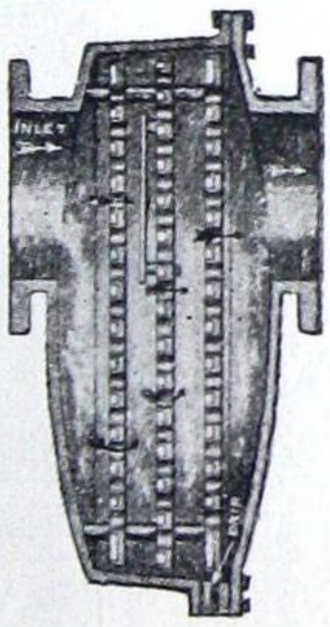


Fig. G174.

GARDNER STEAM SEPARATOR.

Vertical. Horizontal. Angle.

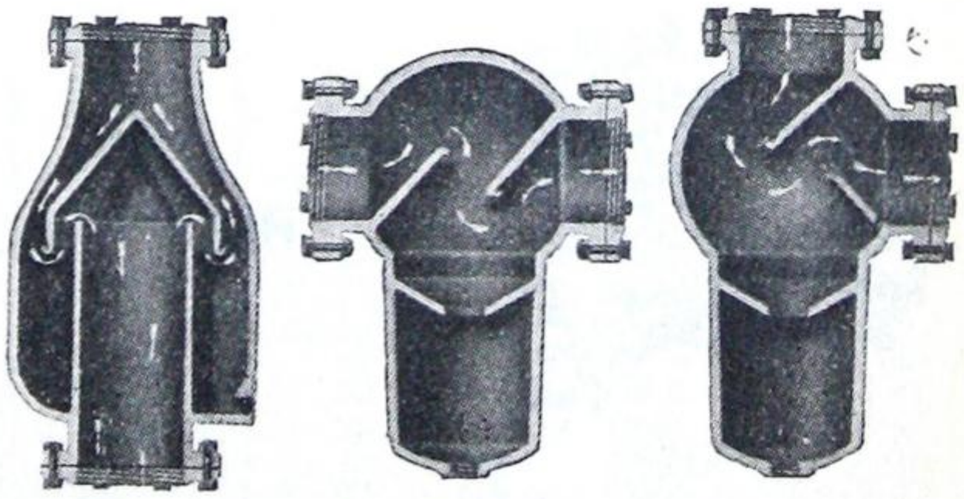


Fig. G175a. Fig. G175b. Fig. G175c.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Kieley Oil Extractor, each...	30.00	35.00	45.00	55.00	64.00	75.00	83.00	104.00	120.00	145.00	165.00	200.00	250.00
Gardner Steam Separator, each.....	40.00	45.00	50.00	60.00	70.00	75.00	80.00	110.00	125.00	160.00	180.00	220.00	250.00

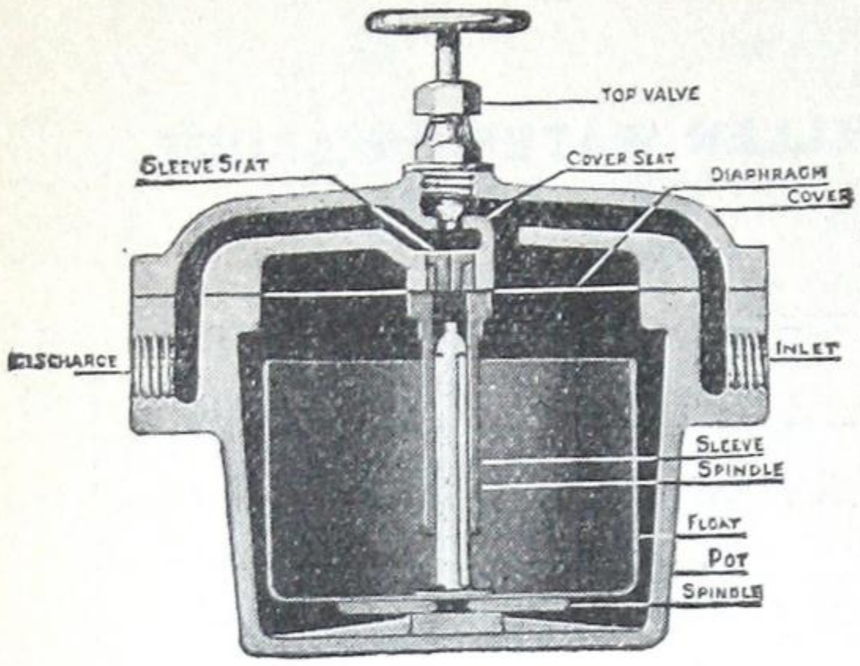


Fig. G176.

NASON STEAM TRAP.

No.....	1	2	3	4	5
Pipe Connection.	½	¾	1	1¼	1½
Drain 1 in. Pipe.	1050	2700	4200	6000	10500
Price, Each.....	$16.00	$20.00	$27.50	$42.50	$70.00

KIELEY STEAM TRAP.

No.....	1	2	3	4	5	6	7
Pipe Connection.....	¾	1	1¼	1½	2	2½	3
Drain 1 in. Pipe.....	4000	6000	10000	15000	25000	35000	50000
Price.....	$25.00	$35.00	$45.00	$60.00	$80.00	100.00	125.00

Low Pressure, 1 to 30 pounds.
High " 30 to 125 "
Ex. Heavy, " 125 to 250 "

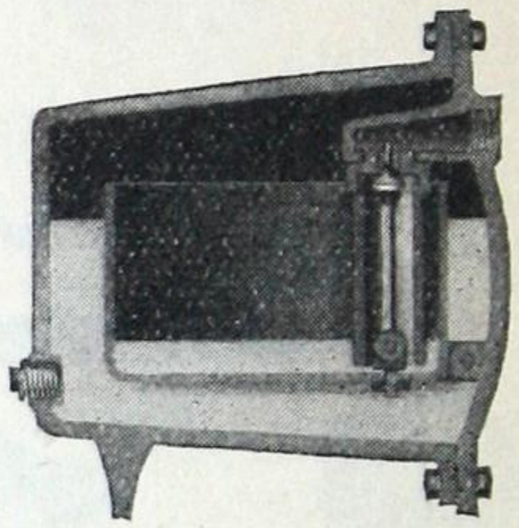


Fig. G177.

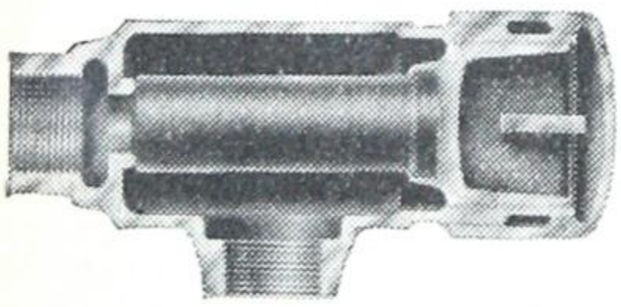


Fig. G178.

JENKINS' DIAMOND STEAM TRAP.

Brass or Iron.—Up to 80 lbs. Pressure.

Sizes.....	½	¾
Price, Each.....	$3.50	$4.00

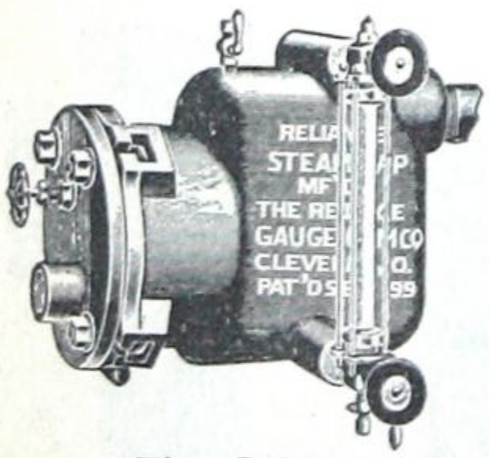


Fig. G179a.

RELIANCE STEAM TRAP.

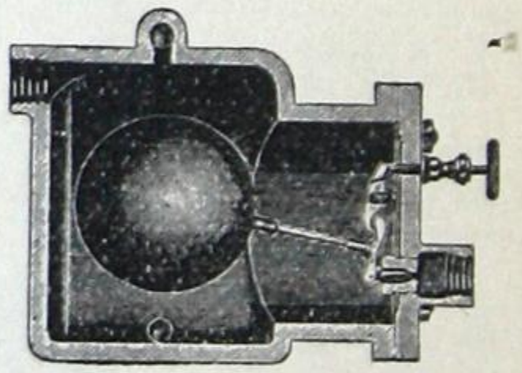


Fig. G179b.

SIZE	1	2	3	4	5	6
Size Connection.....Inches	½	¾	1	1¼	1½	2
Discharge per minute.....lbs.	4	7	10	25	40	60
Feet of Inch Pipe Trap will Drain	1,000	3,000	4,500	7,500	11,000	16,000
Price.....Each	$20.50	$22.50	$28.00	$35.00	$50.00	$70.00

LYMAN EXHAUST HEAD.

SECTION.

Size 5″ and Smaller.



Fig. G180a.

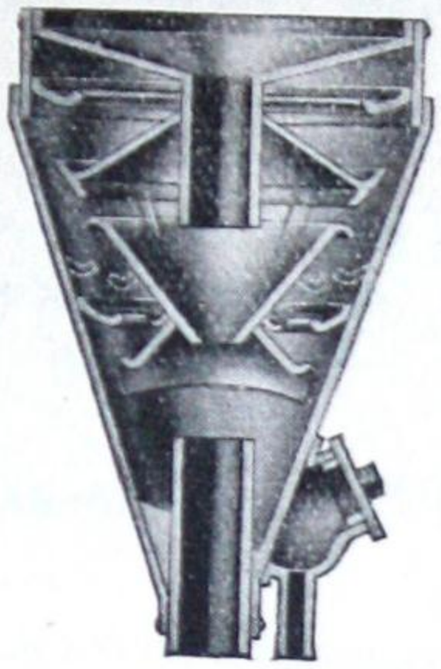


Fig. G180b.

Size 6″ and Larger.



Fig. G180c.

SIZE	1	1½	2	2½	3	3½	4	4½	5	6	8	10	12
DRIP	1¼	1¼	1¼	1¼	1½	1½	1½	1½	2	2	2½	2½	3
Approx. weight, lbs	18	18	22	22	30	30	40	40	55	75	125	190	240
Price	$ c. 20.00	$ c. 20.00	$ c. 25.00	$ c. 25.00	$ c. 30.00	$ c. 30.00	$ c. 40.00	$ c. 40.00	$ c. 50.00	$ c. 60.00	$ c. 90.00	$ c. 125.00	$ c. 150.00

Larger Sizes up to 48″. Prices on application.

SIM'S TUBULAR FEED WATER HEATER.

CLOSED TYPE.

For Heating Feed Water by Exhaust Steam.

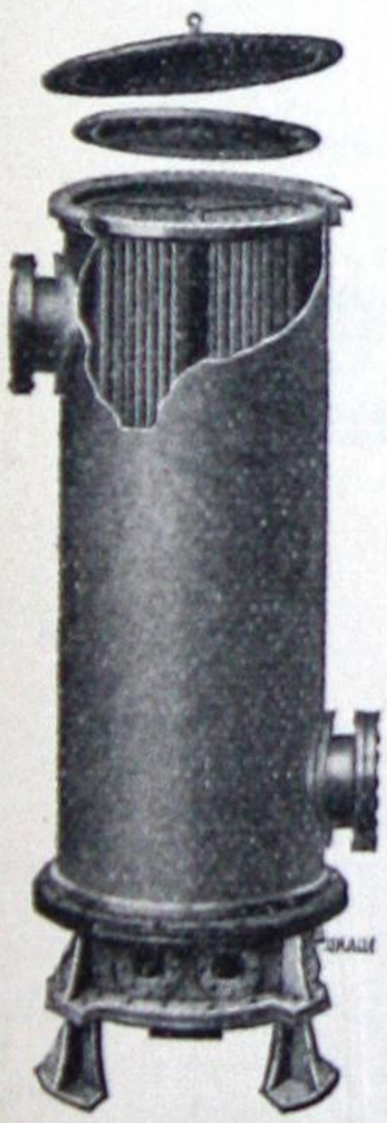
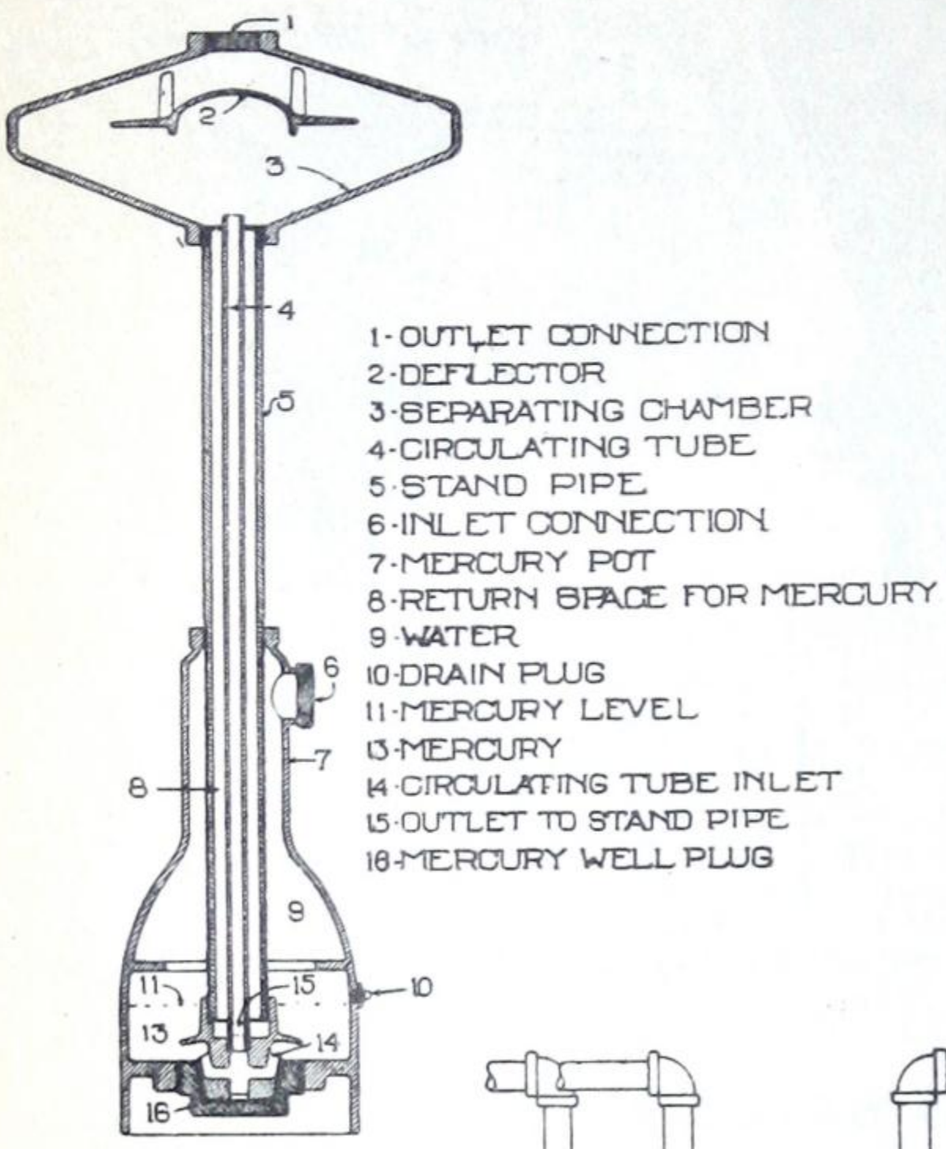


Fig. G181.

No. Heater.	Horse Power.	Dia. Exhaust.	Size Water Connections.	No. Tubes.	No. Passes.	Dia. Body Inches.	Height, Inches.	Approximate Shipping Weight.	Price.
1	30	3	1	12	12	12	24	250	$75.00
2	40	3	1	12	12	12	30	295	86 00
3	50	4	1	12	12	12	36	300	94.00
4	60	4	1	12	12	12	42	400	105.00
5	80	6	1¼	24	8	15	48½	825	160.00
6	100	6	1¼	24	8	15	56½	880	180.00
7	125	8	1½	24	8	15	64½	1060	225.00
8	150	8	1½	24	8	15	72½	1130	255.00
9	175	8	2	36	12	17¼	65½	1200	300.00
10	200	8	2	36	12	17¼	69½	1300	320.00
11	250	8	2	36	12	17¼	81½	1425	370.00
12	300	8	2½	36	12	17¼	93½	1650	420.00
13	400	10	3	60	6	22	87	2400	525.00
14	500	10	3	60	6	22	99	2600	625.00
15	600	12	3	60	6	22	111	2800	750.00
16	700	12	3	60	6	22	123	2900	875.00
17	800	14	4	102	6	37	103	5000	1150.00
18	900	14	4	102	6	37	111	5300	1225.00
19	1000	14	4	102	6	37	119	5700	1290.00
20	1200	16	4	102	6	37	139	6300	1460.00
21	1500	16	4	102	6	37	166	6800	1750.00
22	2000	20	5	144	6	41½	167	10000	2350.00
23	2500	20	5	144	6	41½	195	11000	2750.00
24	3000	22	5	144	6	41½	216	13000	3125.00
25	4000	22	8	270	6	56	164	16000	4000.00

HONEYWELL HEAT GENERATOR.



1-OUTLET CONNECTION
2-DEFLECTOR
3-SEPARATING CHAMBER
4-CIRCULATING TUBE
5-STAND PIPE
6-INLET CONNECTION
7-MERCURY POT
8-RETURN SPACE FOR MERCURY
9-WATER
10-DRAIN PLUG
11-MERCURY LEVEL
13-MERCURY
14-CIRCULATING TUBE INLET
15-OUTLET TO STAND PIPE
16-MERCURY WELL PLUG

Fig, G184.

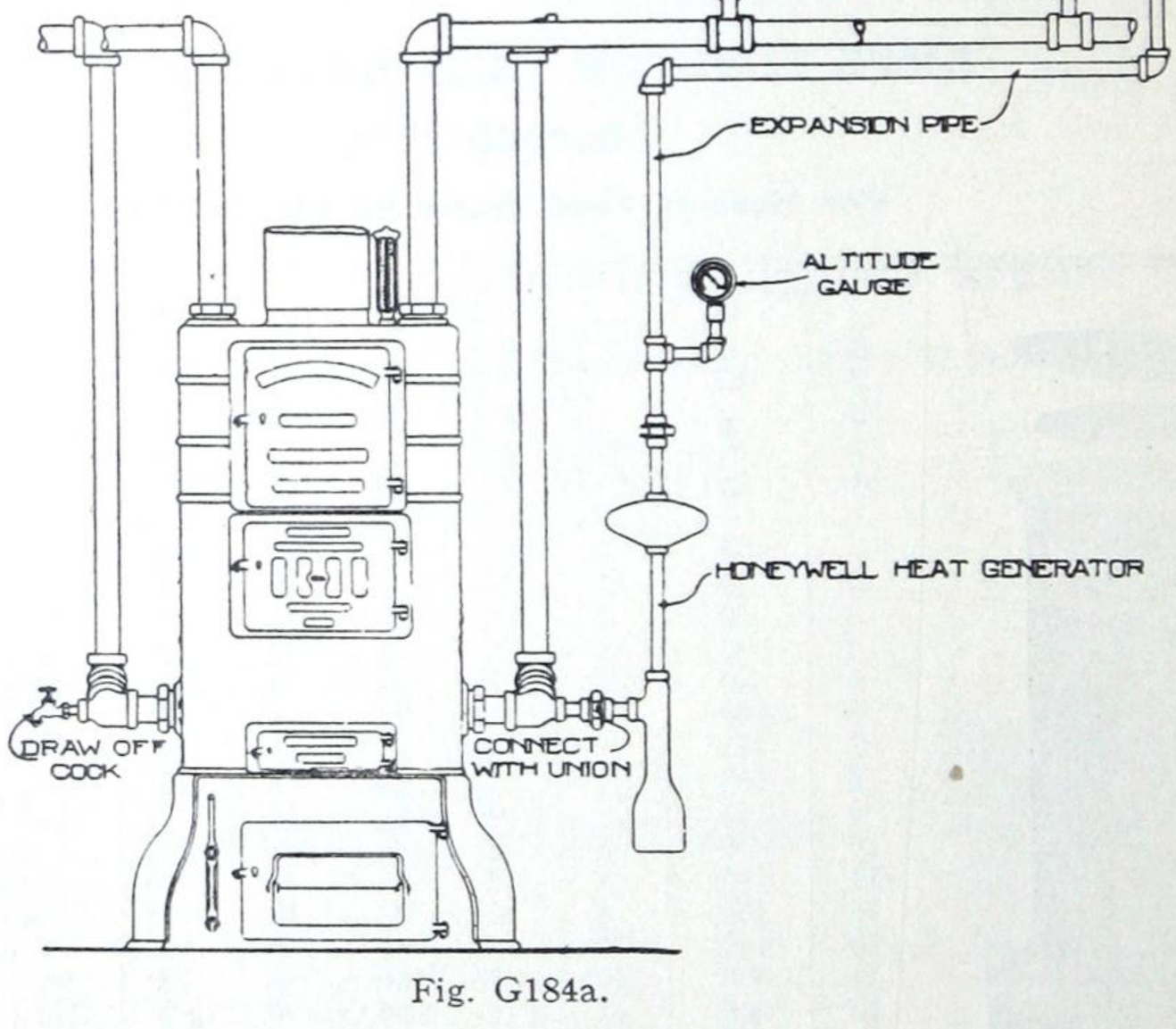


Fig. G184a.

No.....	1	2	3	4
Square Feet Radiation.....	1,200	2,500	3,500	10,000
Price, Each.....	$25.00	$35.00	$50.00	$65.00

THE HARDT "HEAT" GENERATOR.



Fig. G185.

Adds 10 Pounds Pressure to the System and Makes Pressure Uniform under All Conditions.

Only Two Moving Parts, Nos. 3 and 4.

No Springs or Mercury, Governed by Gravity.

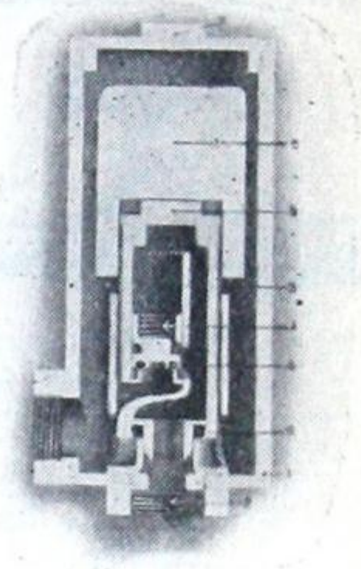


Fig. G185a

Tapped for 1″ Pipe. - - - - - List Price, $30.00.

METHODS OF CONNECTING TO HOT WATER SYSTEM.

When Placed in Basement near Boiler.

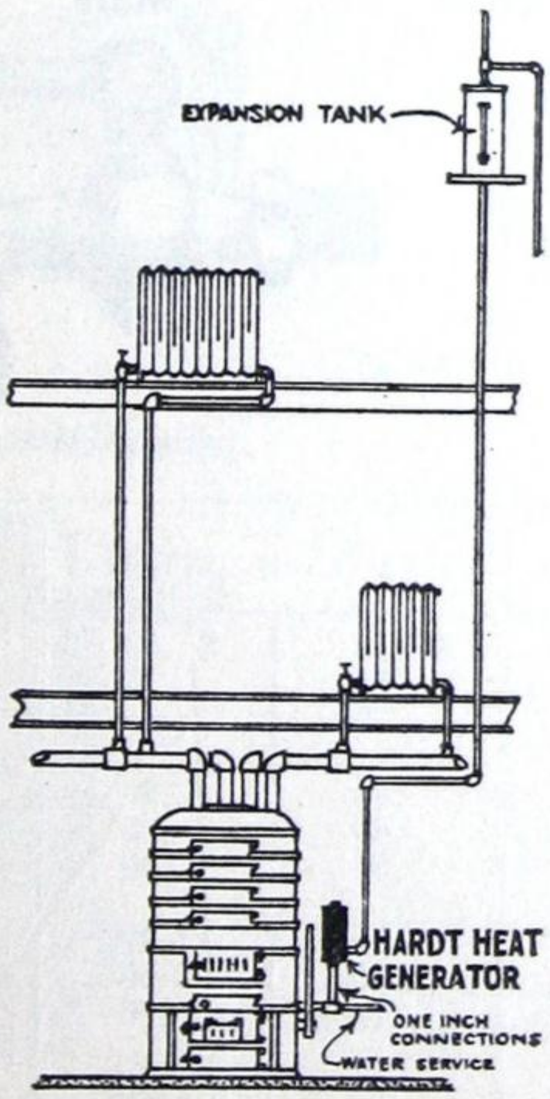


Fig. G185b.

When Placed Upstairs near Expansion Tank.

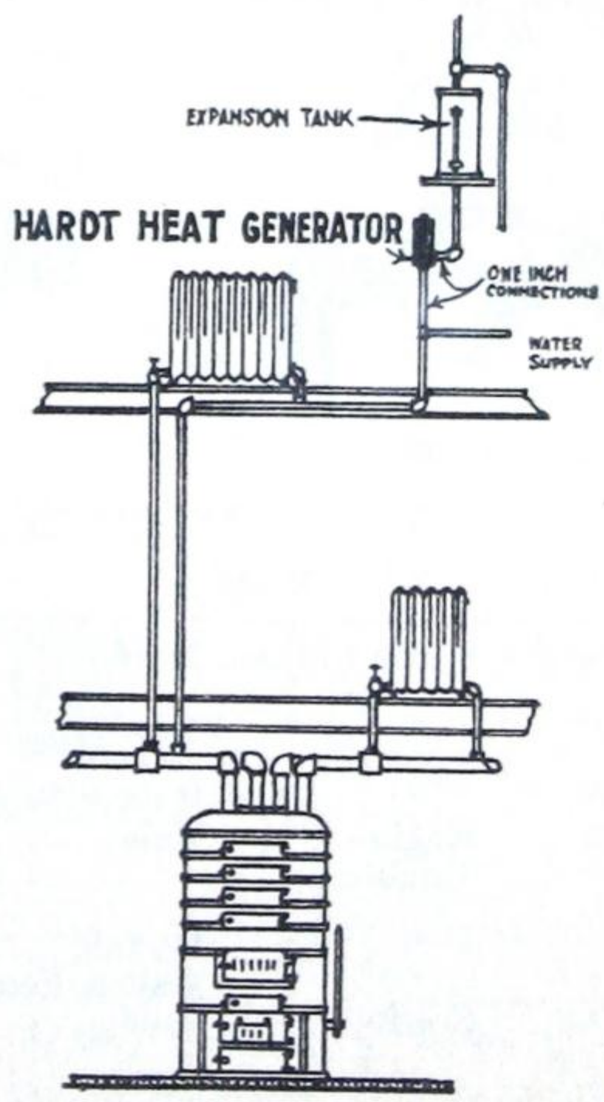


Fig. G185c.

AIR COCKS.

TEE HANDLE STRAIGHT.

SINGLE THREAD
Male.

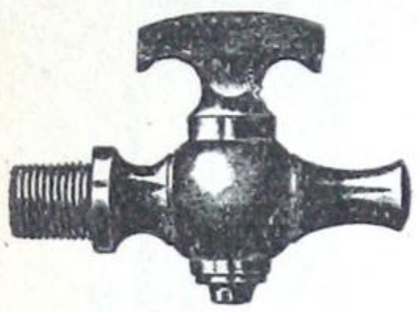


Fig. G186.

DOUBLE THREAD
Male.

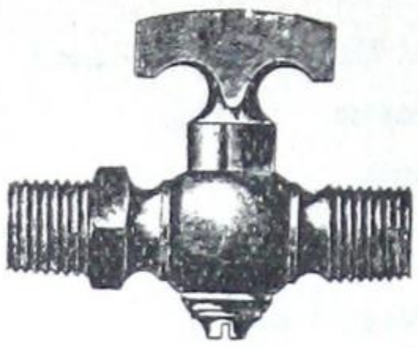


Fig. G187.

DOUBLE THREAD
Female.

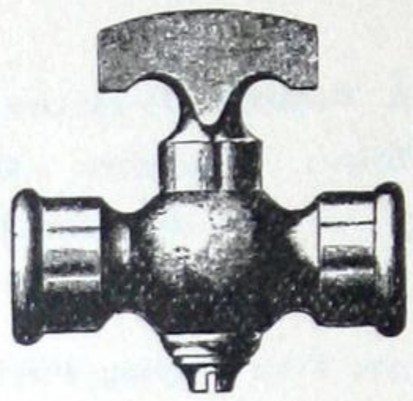


Fig. G188.

DOUBLE THREAD
M. & F.

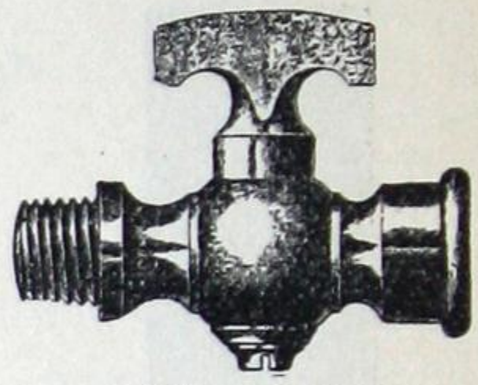


Fig. G189.

LEVER HANDLE STRAIGHT.

SINGLE THREAD.
Male.

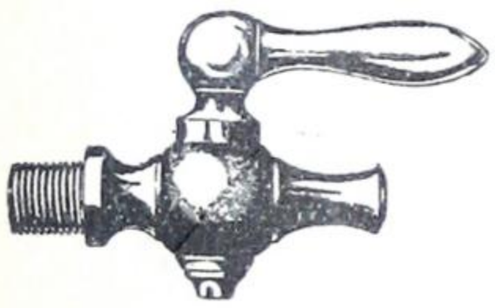


Fig. G191.

LEVER HANDLE.
Double Thread.
Male.

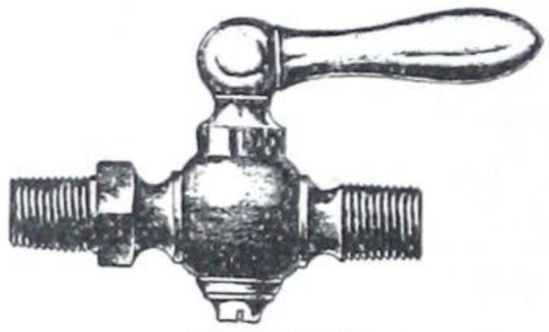


Fig. G192.

DOUBLE THREAD.
Female.

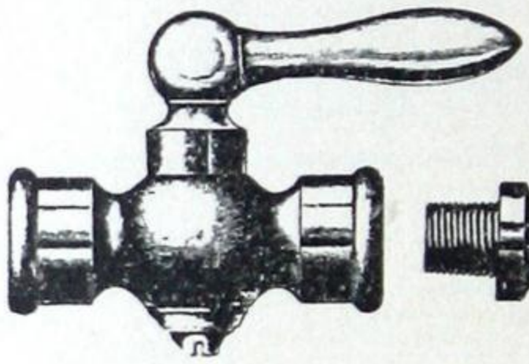


Fig. G193.

DOUBLE THREAD
M. & F.

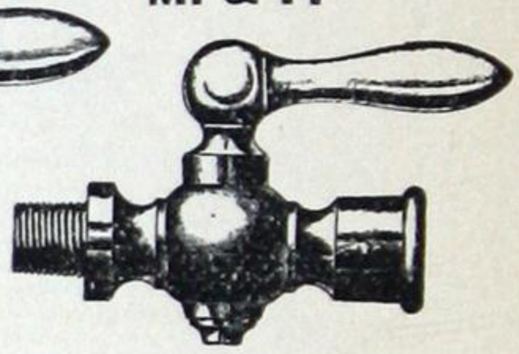


Fig. G194.

BIBB.

T. H. SINGLE THREAD.
Male.

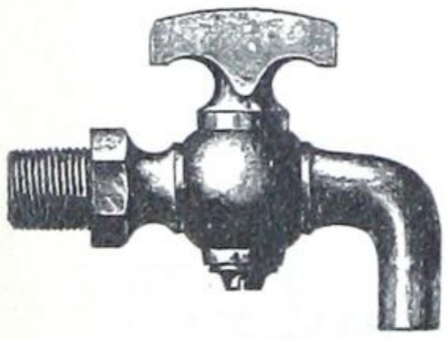


Fig. G196.

L. H. SINGLE THREAD.
Male.

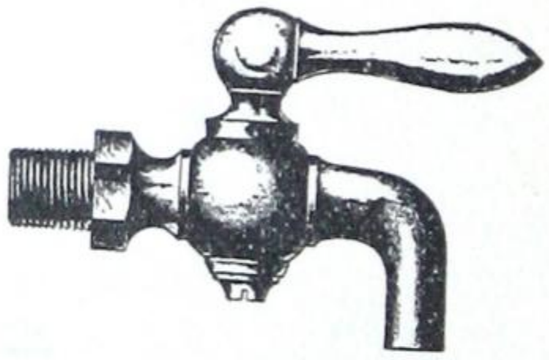


Fig. G197.

L. H. DOUBLE THREAD.
Male.

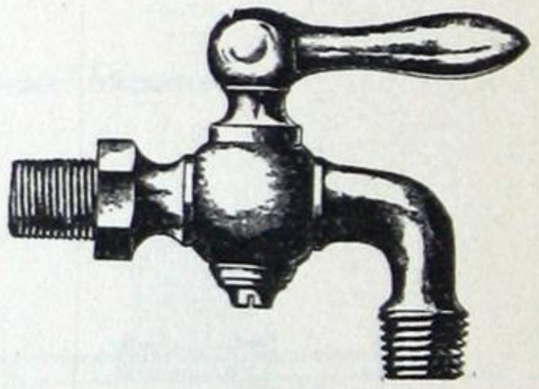


Fig. G198.

SIZE	⅛	¼	⅜	½
T.H. Straight, Single Thread, Male	$ .40	$ .45	$ .50	$ .60
" " Double " "	.55	.65	.75	.90
" " " " Female	.65	.70	.85	....
" " " " Male & Female	.75	.80	.90	....
L.H. " Single " Male	.55	.60	.65	.75
" " Double " "	.70	.80	.90	1.05
" " " " Female	.80	.85	1.00	....
" " " " Male & Female	.90	.95	1.05	....
T.H. Bibb,- Single " Male	.70	.80	.90	1.00
L.H. " " " "	.85	.95	1.05	1.15
" " Double " "	.95	1.15	1.25	1.50

AIR VALVES.

SQUARE HEAD.



Fig. G201.

WHEEL HEAD.



Fig. G202.

WOOD WHEEL.



Fig. G203.

LOCKSHIELD.



Fig. G204.

SIZE	⅛	¼	⅜
Square Head, Rough	$ .20	$ .20	$ .25
" " Nickel-plated	.30	.30	.35
Wheel Head, Rough	.25	.25	.30
" " Nickel-plated	.35	.35	.40
Wood Wheel "	.40	.40	.50
Lock Shield "	.35	.40	.....

Keys for Lock Shield Air Valve extra, each, 20c.

AUTOMATIC AIR VALVES.

VICTOR No. 1.



Fig. G206.
⅛" ....Per Doz. $7.50

VICTOR No. 2.



Fig. G207.
⅛" ....Per Doz. $7.50

JENKINS'.

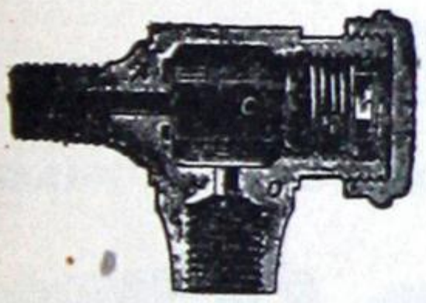


Fig. G211.
⅛ & ¼" Per Doz. $7.50

DRIP CUP.



Fig. G212.
Per Doz.....$2.00

JENKINS'.
With Union Drip.

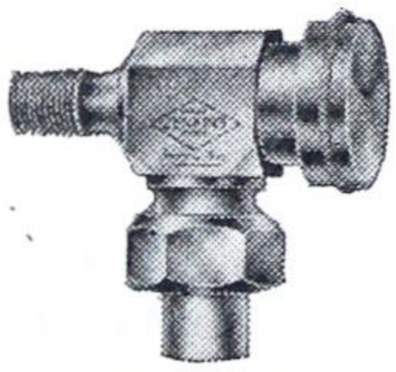


Fig. G213.
⅛" ....Per Doz. $9.50
⅛" & ¼" & ¼" " 10.00

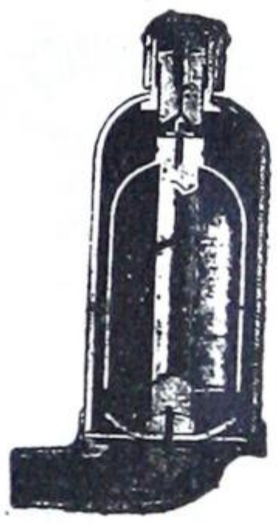


Fig. G208.
⅛" ...Per Doz. $15.00

JENKINS' PAUL.



Fig. G214.
⅛" & ¼"....Per Doz. $12.00

VACUUM VALVES.



Fig. G216.

SIZE	¼	⅜	½	¾	1
Fig. 216, each.....	$1.00	$1.25	$1.50	$2.00	$2.50

GAUGE GLASS.



Fig. G225.

Length, inches....	10	11	12	13	14	15	16	17	18	19	20	22	24	30
½ & ⅝, O. D., doz.	$3.12	$3.36	$3.60	$3.96	$4.20	$4.56	$4.80	$5.16	$5.40	$5.76	$6.00	$6.60	$7.20	$9.12
¾ " "	4.32	4.68	5.04	5.52	5.88	6.36	6.72	7.20	7.56	8.04	8.40	9.24	10.08	12.60
⅞ " "	5.76	6.48	7.20	7.80	8.40	9.00	9.60	10.20	10.80	11.40	12.00	13.20	14.40	18.00
1 " "	7.20	8.04	8.88	9.72	10.56	11.40	12.24	13.08	13.92	14.76	15.60	17.52	19.44	25.20

For Gauge Glass Washers, see page 49.

GAUGE COCKS.

NO STUFFING BOX.



Fig. G226.

WITH STUFFING BOX.



Fig. G227.

REGISTER.



Fig. G228.

JENKINS'
With Cleaner.

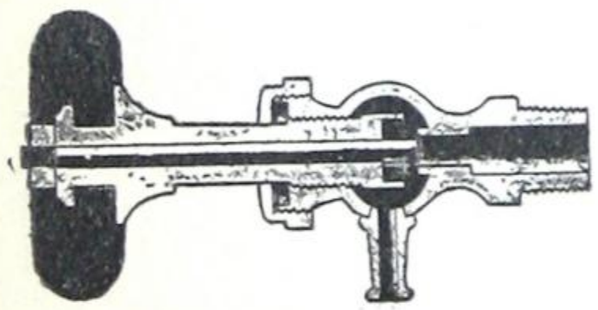


Fig. G231.

JENKINS' BALL.
With Comp. Plug.



Fig. G233.

RELIANCE SELF-CLOSING.

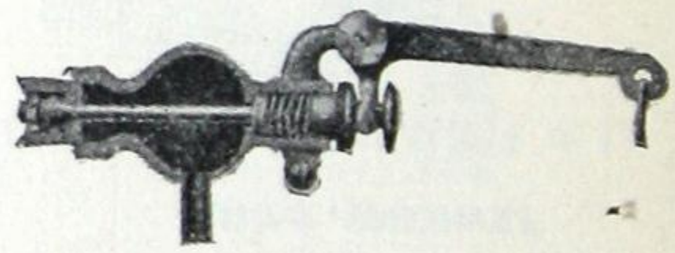


Fig. G234.

SIZE, INCHES		⅜	½	¾
Gauge Cocks, no Stuffing Box	Each	$ .95	$1.00	$1.25
" " with " "	"	1.20	1.30	1.45
" " Register	"	1.00	1.00	1.10
" " Jenkins', with Cleaner	"	1.50	1.60	1.75
" " " Ball	"	....	1.50	1.50
" " Reliance Self-Closing	"	....	5.00	5.00

COMPRESSION WATER GAUGES.

ROUGH BODY.

Iron Wheel.

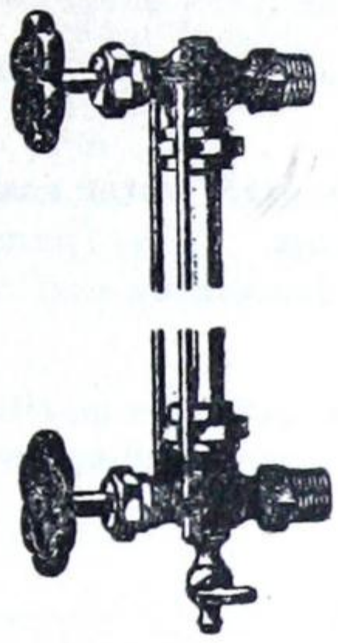


Fig. G236.

FINISHED BODY.

Wood Wheel.

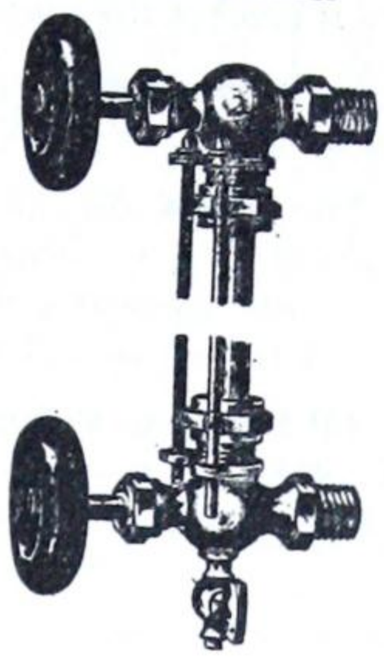


Fig. G237.

Size, Threaded I.P.	Size of Glass	Number of Guards	Rough Round Body Iron Wheel Fig. G236	Finished Round Body Wood Wheel Fig. G237
3/8	5/8 x 10	2	$2.75	$3.75
1/2	5/8 x 12	2	3.00	4.25
3/4	3/4 x 16	2	4.50	5.50

SAFEGUARD.

Automatic.

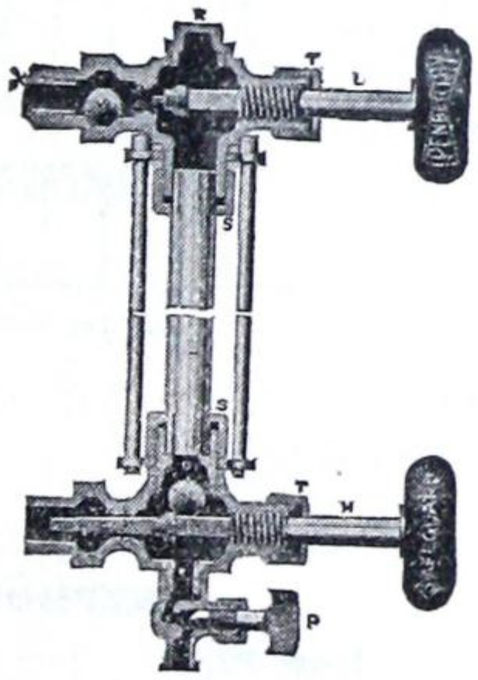


Fig. G238.

RELIANCE QUICK-CLOSING.



Fig. G239.

Size Threaded I.P.	Size of Glass.	Number of Guards.	Safeguard Finished Square Body Wood Wheel Fig. G238	Reliance Quick Closing. Fig. G239.
3/8	5/8 x 10	2	$3.00	.....
1/2	5/8 x 12	2	3.00	$18.00
3/4	3/4 x 12	2	3.50	20.00

Combination High and Low Water Alarm.



Fig. G240.

RELIANCE SAFETY WATER COLUMNS.

These columns are of two kinds, the low water alarm, which whistles only when the water line reaches the center of the lower gauge cock, and the combined high and low water alarm, which whistles when it reaches the center of either the lower or the upper gauge cock.

Sediment chamber provides protection against the danger arising from sediment.

The **valves** are also **placed high above the high water mark** and are so constructed as to **not become stopped up.** These columns have floats possessing unusual **strength** and **durability** and are thoroughly mechanical in all their construction.

All Reliance Columns are tapped for gauge cock holes on either side, obviating any trouble with rights and lefts and making them available for either side of the boiler.

Low Water Alarm.

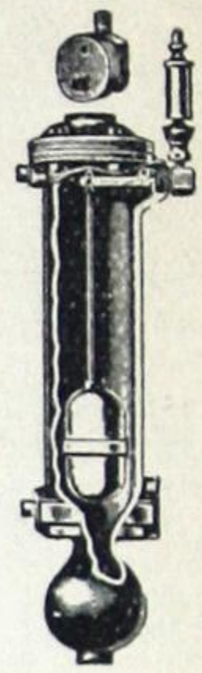


Fig. G241.

COMBINED HIGH AND LOW WATER ALARMS				GENERAL DIMENSIONS								
Size of Column.	Kind and Size of Boiler.	Variation Between Alarms.	List Price of Columns.	Steam and Water Connections	Blow-off.	Water Gauge.	Gauge Glass.	Gauge Cocks Centers.	Gauge Cocks Size.	Center of Water Connection to Top of Column.	Diameter of Column.	Length over all.
No.		In.		In.	In.	In.	In.	In.	In.	In.	In.	In.
1	36″ to 54″	6	$28.00	1	½	½ x 14	⅝ x 12	3	½	16	3¾	23¼
1½	36″ to 54″	6	28.00	1¼	¾	½ x 14	⅝ x 12	3	½	19¾	5	28¼
5	54″ to 72″	8	30.00	1¼	¾	¾ x 18	¾ x 16	4	¾	20½	4¼	29½
7	Water Tube	12	35.00	1½	¾	¾ x 21	¾ x 19	6	¾	26	5¼	36
9	Vertical	18	40.00	1½	1	¾ x 28	¾ x 26	9	¾	33½	5¼	44
11	"	24	42.50	1½	1	¾ x 32	¾ x 30	12	¾	37¾	5	48
13	"	30	45.00	1½	1	¾ x 38	*¾ x 36	10	¾	52½	5	64
15	"	36	50.00	1½	1	¾ x 44	*¾ x 42	12	¾	58½	5	70
LOW WATER ALARMS				GENERAL DIMENSIONS								
2	36″ to 54″	..	$25.00	1	½	½ x 14	⅝ x 12	3	½	16	3¾	23¼
6	54″ to 72″	..	28.00	1¼	¾	¾ x 16	¾ x 14	4	¾	18¼	4¼	27¼
8	Vertical	..	35.00	1½	¾	¾ x 21	¾ x 19	6	¾	26	5¼	36

* Two glasses joined at center with stuffing box. Four gauge cocks. Larger sizes made to order.

CAST IRON WATER COLUMNS.



No.	1	2
Connections		
Boiler.....	1″	1″
Water Gauge	½″	½″
Gauge Cocks	⅜″	½″
Price Each	$1.35	2.50

Fig. G242.

EXPANSION TANK Mountings.



Fig. G243.
Complete Each $1.00

SYPHONS.

Iron Pipe.



Fig. G245.
¼″..Each..$0.50

Brass.



Fig. G246.
¼″ ...Each $1.00

TRIP GONGS.

TRIP GONG.

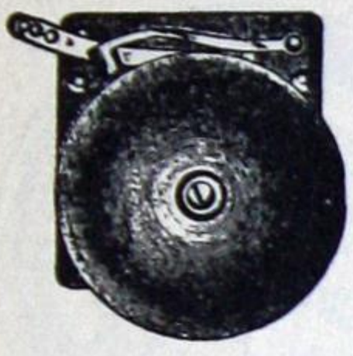


Fig. G247a.

Diam, Inches	4	6	8	10	12	14	16
Brass, each	$1.05	$2.00	$3.85	$7.00	$12.50	$17.65	$21.65
Steel, "	.....	.....	3.00	5.00	8.00	12.00	16.00
No	1	2		3	4		
Gong Pulls, each	.40	.85		1.75	2.25		
Gong Cranks, dozen	2.00	3.60		....	5.00		

GONG PULL.



Fig. G247b.

GONG CRANK. With Standard.



Fig. G247c.

GONG CRANK. With Wall Bracket.



Fig. G247d.

EXPANSION JOINTS.

IRON BODY, BRASS SLEEVE.

Brass.



Fig. G248.

Screwed.



Fig. G249.

Flanged.

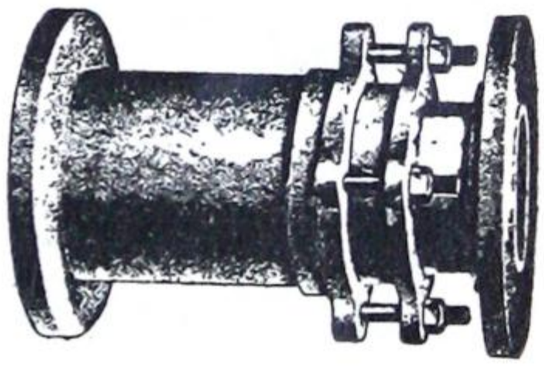


Fig. G250.

BRASS EXPANSION JOINTS.

SIZE	½	¾	1	1¼	1½	2	2½	3
Traverse, inches	2	2¼	2¼	2¼	2¼	2½	2½	2¾
Price, Each	$1.50	$2.20	$2.75	$4.00	$5.00	$8.00	$17.50	$24.00

IRON EXPANSION JOINTS.—Brass Sleeve.

SIZE	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Traverse	2½	2½	2¾	3	3¼	3½	4	5	6	7	7	7	8
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, Screwed, Each	7.00	8.00	10.00	14.00	18.00	30.00	38.00	45.00	70.00	100.00	110.00	160.00	225.00
Price, Flanged, Each	15.00	16.00	18.50	25.00	30.00	40.00	48.00	55.00	80.00	110.00	120.00	175.00	250.00

GAUGES.

PRESSURE.

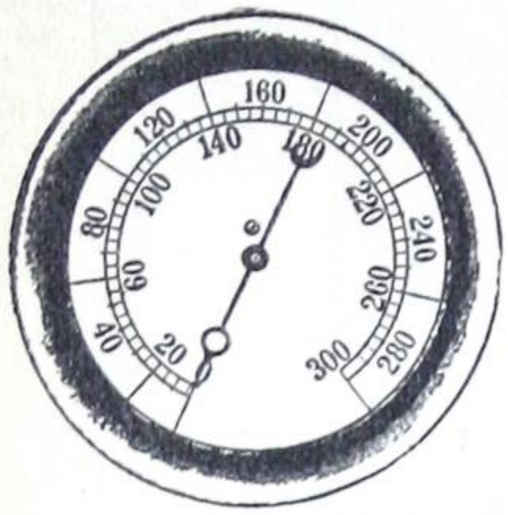


Fig. G251.

VACUUM.

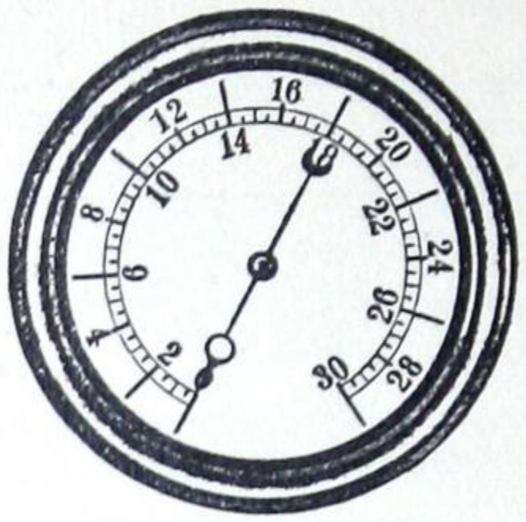


Fig. G252.

COMPOUND.

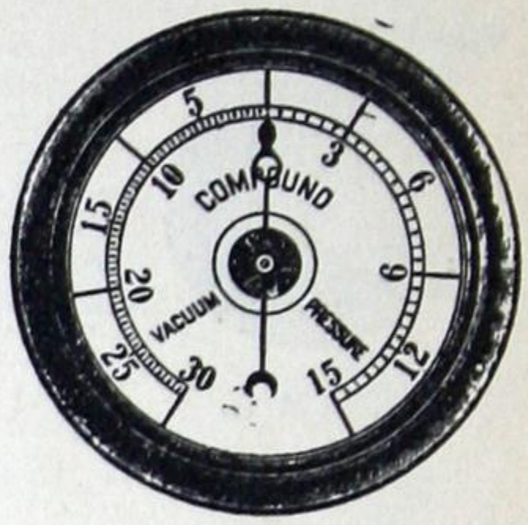


Fig. G253.

COMBINATION.

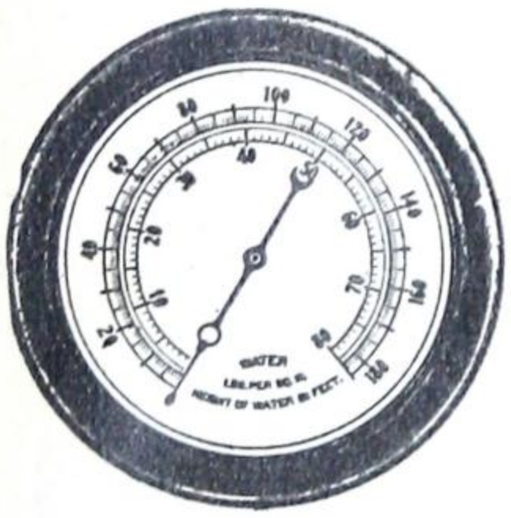


Fig. G256.

HYDRAULIC.

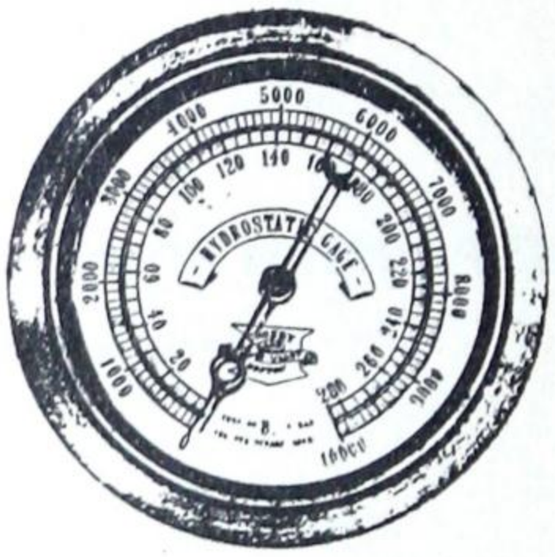


Fig. G257.

ALTITUDE.

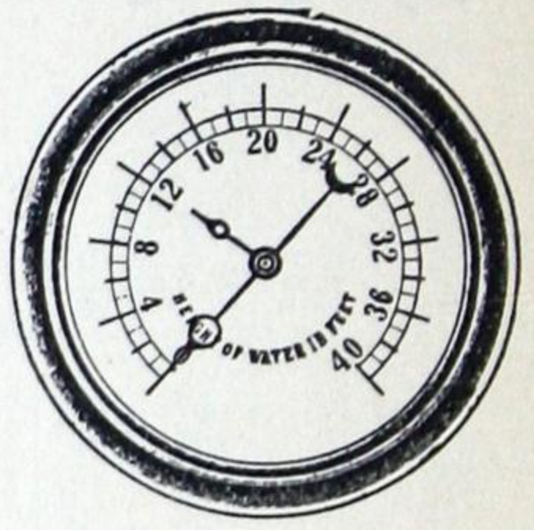


Fig. G258.

SIZE OF DIAL—INCHES.		2½	3½	4½	5	6	6¾	8½	10	12
Pressure or Vaccuum, I.C., B.R.	Each.	$6.00	$7.00	$ 8.00	$ 8.00	$13.00	$16.00	$22.00	$32.00	$50.00
" " B.C.	"	8.00	9.00	10.00	11.00	16.00	20.00	30.00	40.00	75.00
Compound, I.C., B.R.	"	.....	10.00	12.00	14.00	16.00	20.00	30.00	40.00	60.00
" B.C.	"	.....	12.00	14.00	16.00	20.00	25.00	40.00	50.00	80.00
Combination, I.C., B.R.	"	.....	.....	12.00	14.00	16.00	20.00	30.00	40.00	60.00
" B.C.	"	.....	.....	14.00	16.00	20.00	25.00	40.00	50.00	80.00
Hydraulic, I.C., B.R.	"	.....	22.00	25.00	30.00	35.00	50.00	70.00	90.00	110.00
" B.C.	"	.....	26.00	30.00	35.00	40.00	60.00	80.00	100.00	125.00
Altitude, I.C., B.R.	"	.....	10.00	12.00	12.00	16.00	20.00	30.00	40.00	60.00
" B.C.	"	.....	12.00	14.00	14.00	20.00	25.00	40.00	50.00	80.00

I.C., B.R.—Iron Case Brass Ring. B.C.—Brass Case.

Prices are for Gauges only; for Cocks, see Page 28.

Note.—Where Pressure Gauges are used for Steam or subject to great heat, a syphon or other device should be provided which will fill the spring tubes with water to keep them cool.

When ordering pressure Gauges give diameter of dial and maximum pressure on dial.

When ordering Hydraulic Gauges graduated to show the corresponding aggregate pressure in tons on area of Ram, state diameter of Piston of Ram and highest pressure to be carried in pounds per sq. inch, or in tons on the Ram.

THERMOMETERS.

FOR STEAM AND HOT WATER LINES.

Heavy Cast Brass Case.

No. A. 42.

Horizontal Extension Type.

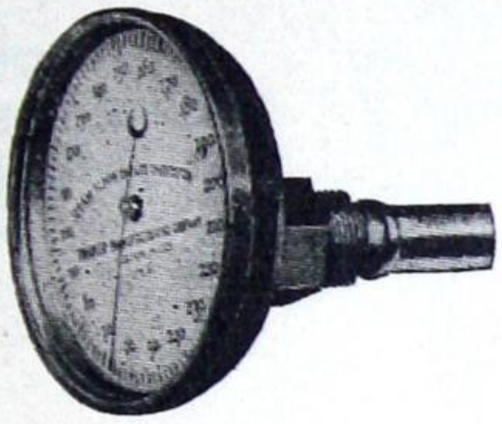


Fig. G259a.

No. A. 43.

Vertical Extension Type.



Fig. G259b.

HORIZONTAL OR VERTICAL EXTENSION TYPE.

Diameter of Dial.	Pipe Thread.	Length of Extension.	Range in Degrees. Fahrenheit.	Price.
4 inches	¾ inch	2 inches	50° to 250°	$10.00

HOT WATER THERMOMETERS—FOR BOILERS.

No. 6042.

Angle Stem—Magnifying Tube.

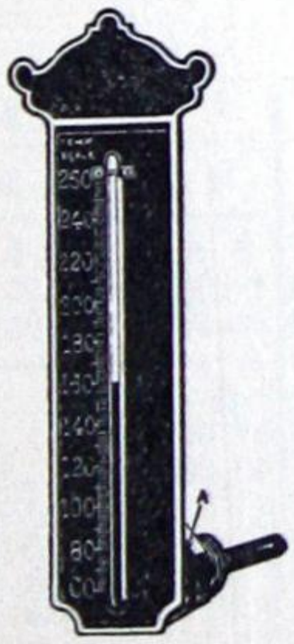


Fig. G260a.

Iron Nickel Plated Case, Brass Oxidized Scales, white filled figures, 8″ case, 2″ Stem, ½″ I. P. Thread.

Approximate scale range, 60° to 260°F.

Designed for Hot Water Heating Boilers.

Price each, $2.50.

No. 6040.

Straight Stem—Magnifying Tube.

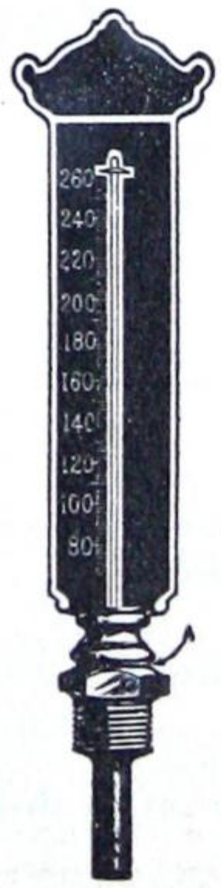


Fig. G260b.

Price each, $2.00.

STEAM WHISTLES.

No Valve.



Fig. G261.

WHISTLE VALVE.
Standard.



Fig. G262.

With Standard Valve.



Fig. G263.

CHIME COMBINATION.

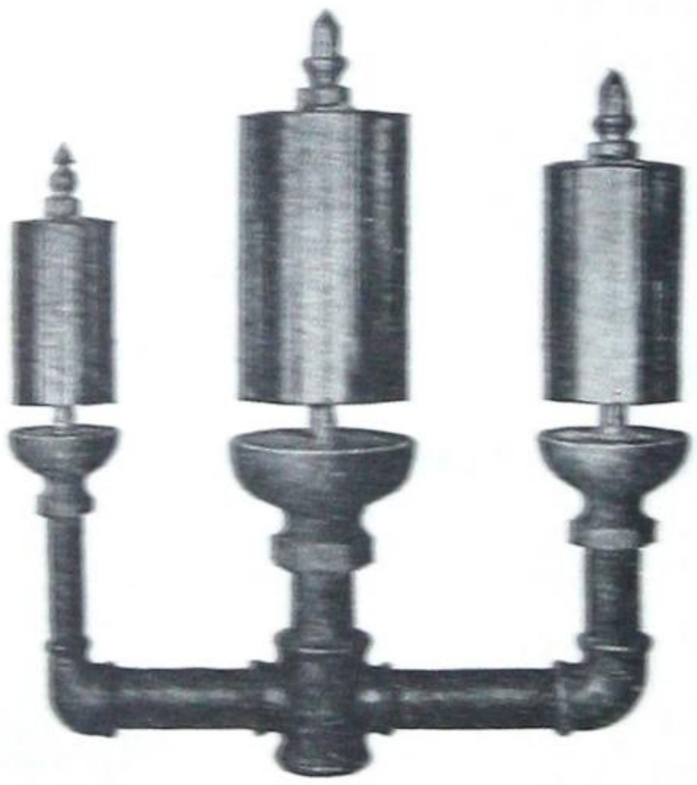


Fig. G264.

MOCKING BIRD.



Fig. G269.

Dia. of Bell, Inches	1	1¼	1½	1¾	2	2½	3	3½	4	5	6	8	10
Threaded for Pipe	⅜	⅜	½	...	¾	¾	1	1	1¼	1¼	2	2½	2½
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Whistle, no valve, each	2.20	2.75	3.00	.....	4.35	5.25	7.25	9.50	12.00	19.00	24.00	70.00	175.00
" with " "	3.10	3.75	4.00	.....	5.50	6.50	8.50	11.50	15.00	22.50	33.00	95.00	225.00
Threaded for Iron Pipe	.....	.....	.....	.....	.....	¾	¾	1	1¼	1½	1½	.....	.....
Mocking Bird, no Valve, each	.....	.....	.....	.....	.....	9.00	12.00	17.50	25.00	37.00	50.00	.....	.....
" " with "	.....	.....	.....	.....	.....	10.50	14.00	20.00	28.00	40.00	56.00	.....	.....

Size, Iron Pipe	½	¾	1	1¼	1½	2	2½	3
Standard Whistle Valve, each	2.50	3.00	3.50	5.00	6.00	9.00	18.00	27.00
Jenkins' " "	3.25	4.00	4.50	6.25	7.75	9.00	18.00	27.00

Always order Steam Whistles by Diameter of Bell and not Size of Pipe Connection.
Chime Combinations made to order from any Size and Number of Whistles.

SIGHT FEED CYLINDER LUBRICATORS.

DETROIT IMPROVED.

Double Conn.

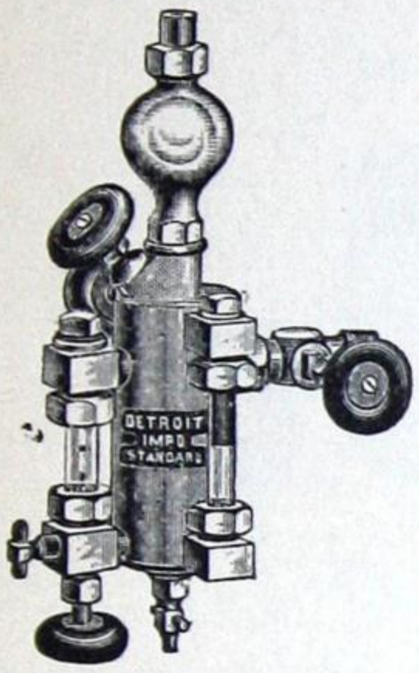


Fig. G271.

Single Conn.

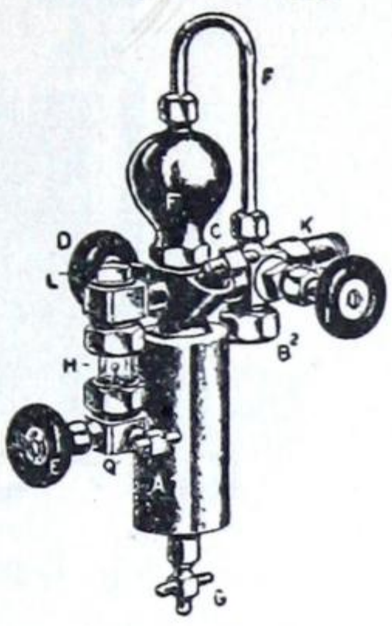


Fig. G272.

DETROIT ZERO.

Double Conn.

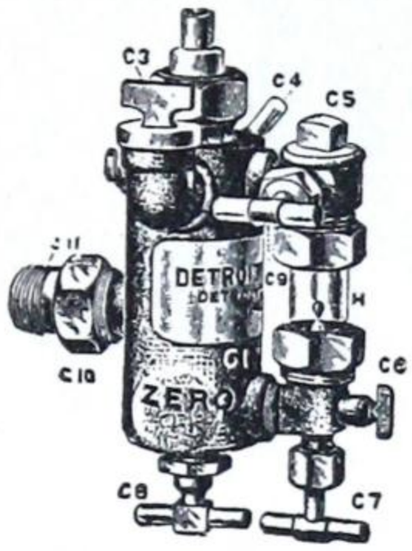


Fig. G273.

Single Conn.

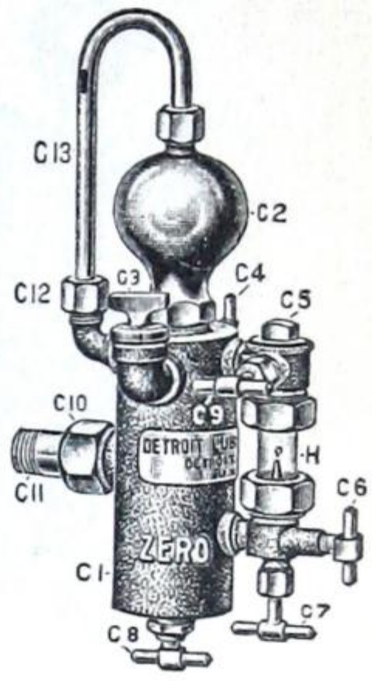


Fig. G274.

PEERLESS.

Double Conn.

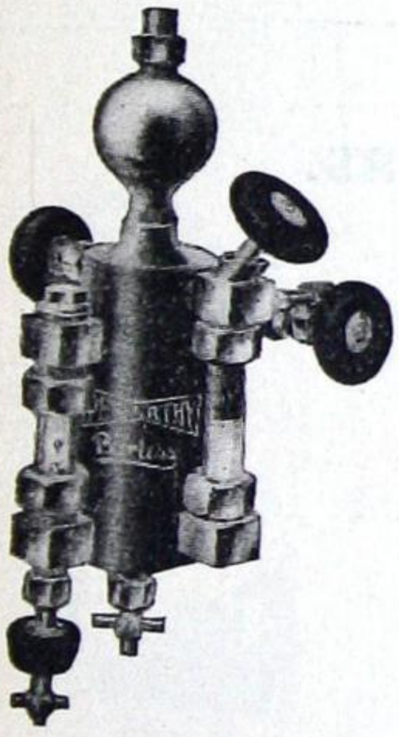


Fig. G276.

Single Conn.

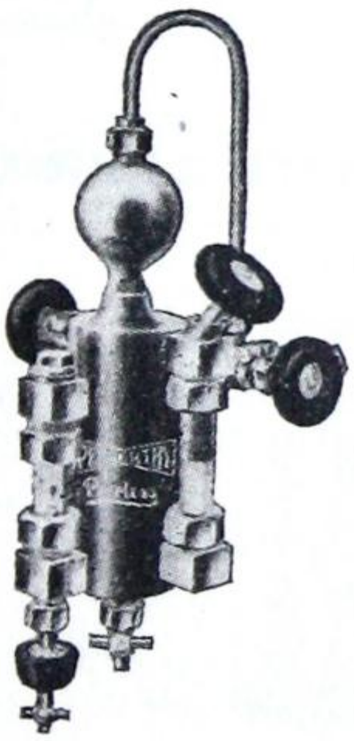


Fig. G277.

KING.

Double Conn.



Fig. G278a.

Single Conn.



Fig. G278b.

CAPACITY, PINTS					¼	⅓	½	1	2	4	8
Detroit Imp'd	Double	Connection	.....	Each	.....	$17.00	$22.00	$30.00	$45.00	$60.00	$75.00
" "	Single	"	.....	"	15.00	17.00	20.00	28.00	42.00	.....	.....
" Zero,	Double	"	.....	"	15.00	17.00	20.00	28.00	42.00	.....	.....
" "	Single	"	.....	"	15.00	17.00	20.00	28.00	42.00	.....	.....
Peerless,	Double	"	.....	"	.....	17.00	20.00	26.75	35.00	.....	.....
"	Single	"	.....	"	.....	17.00	20.00	26.75	35.00	.....	.....
King,	Double	"	.....	"	3.50	3.75	4.00	6.00	7.50	.....	.....
"	Single	"	.....	"	3.50	3.75	4.00	6.00	7.50	.....	.....

SIGHT FEED CYLINDER LUBRICATORS.

ACME.
Double Conn.

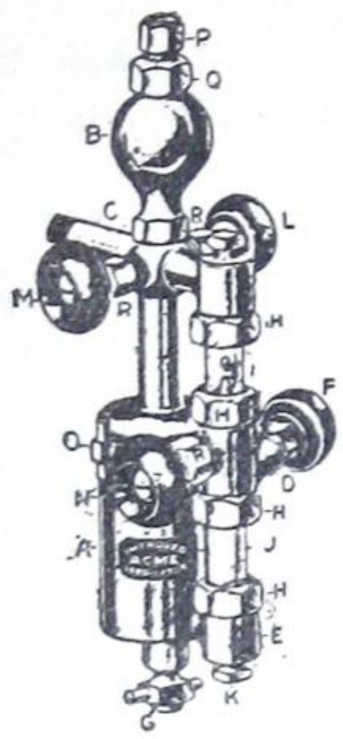


Fig. G279.

EUREKA
Double Conn.

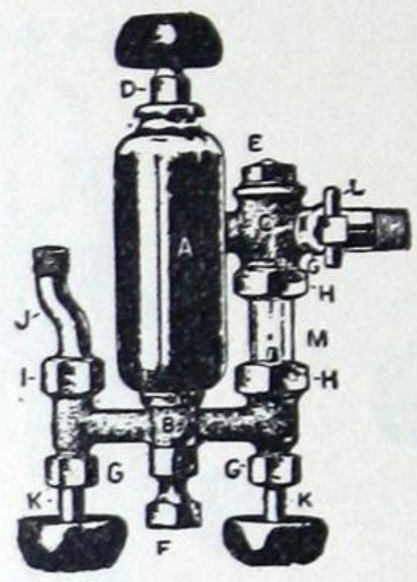


Fig. G280.

CAPACITY—PINTS.	¼	⅓	½	1	2	4	8
Acme, Double Connection.....Each.	.....	17.00	22.00	30.00	45.00	60.00	75.00
Eureka " " ..... "	15.00	17.00	22.00	30.00	45.00	.....	.....

SWIFT SIGHT FEED CYLINDER LUBRICATORS.

CLASS F.
Double Conn.

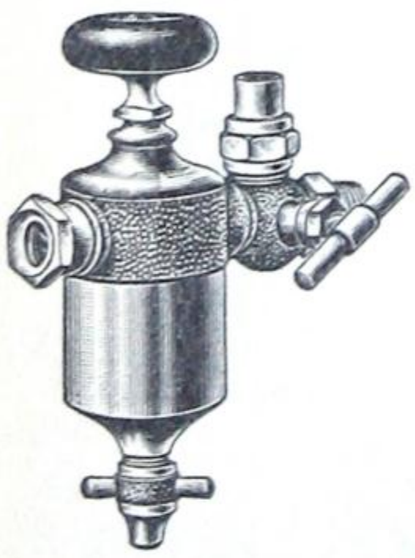


Fig. G281.

CLASS F.
Single Conn.

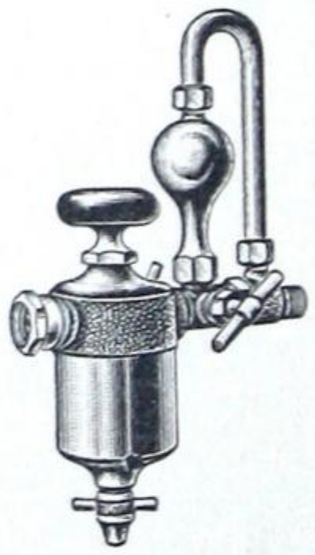


Fig. G282.

CLASS G.
Single Conn.

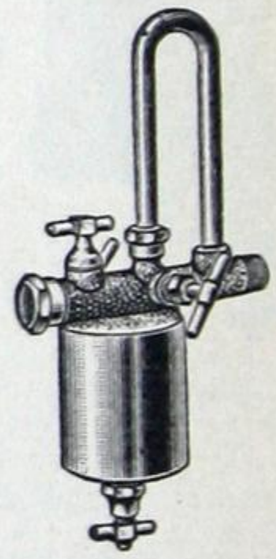


Fig. G283.

CAPACITY—PINTS	¼	⅓	½	1	1½	2
Swift, Double Connection, Class F....Each.	$2.75	$3.00	$3.25	$4.65	$5.40	$6.15
" Single " " F.... "	3.50	3.75	4.00	6.00	6.75	7.50
" " " " G... "	2.15	2.50	2.90	....	....	....

HAND PUSH OIL PUMPS.

With Reversible Shank. Can be connected Horizontally or Vertically

DETROIT.

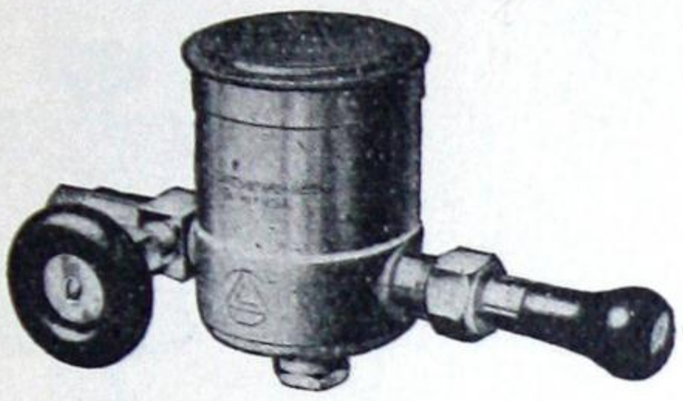


Fig. G284a.

SHERMAN.

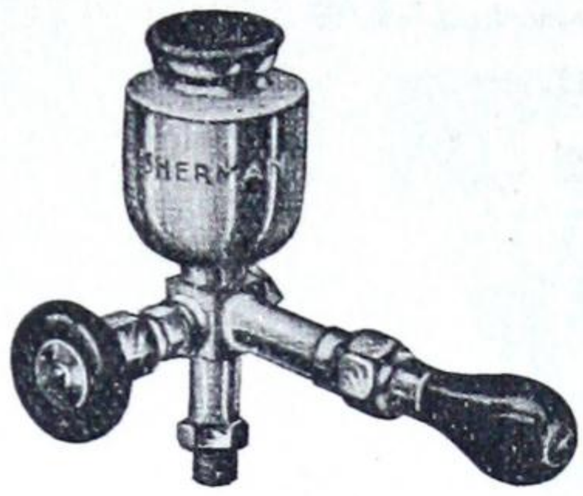


Fig. G284b.

CAPACITY—PINTS	¼	½	1	2
Threaded Iron Pipe.....	⅜	½	½	½
"Detroit" Finished Brass.....Each.	$4.25	5.00	7.50	....
" Nickel Plated..... "	4.75	5.75	8.60	....
"Sherman" Finished Brass..... "	4.25	5.00	7.50	12.00
" Nickel Plated..... "	4.75	5.75	8.60	13.50

PLAIN LUBRICATORS.

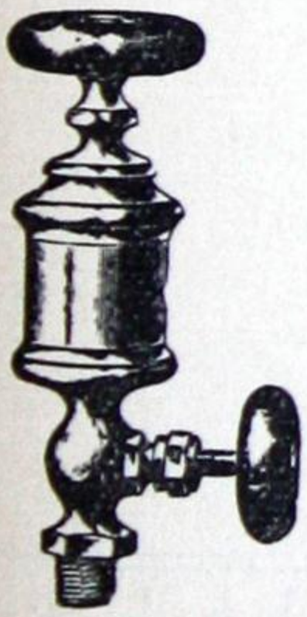


Fig. G285.

DIAMETER OF BODY	1	1¼	1½	2	2½	3	3½	4
Plain Lubricators.....Each.	$2.00	$2.20	$2.40	$2.90	$3.75	$4.75	$7.00	10.00
" " with Drain & Tube "	.....	3.20	3.40	3.90	4.75	5.75	8.00	11.00

Lubricators with Drain and Tubes are so constructed that Flow of Oil is regulated by condensation, the result is a slow, steady and economic feed.

OIL CUPS.

SIZE DIAMETER OF BODY.	¾	⅞	1	1⅛	1¼	1½	1¾	2
Threaded for Iron Pipe	⅛	⅛	¼	¼	¼	⅜	⅜	⅜
Screw Top, Price each, without Syphon ...	$.30	$ .35	$ .40	$ .50	$ .60	$ .90	$1.25	$1.75
Screw Top, Price each with Syphon	.40	.45	.50	.60	.70	1.00	1.35	1.85
Elbow Oil Cup, each	.50	.50	.70	.80	1.00	1.40	1.85	2.30

SCREW TOP



Fig. G286.

OIL CUPS.

SAFETY CRANK PIN.

No. 40.



Fig. G287.

"SLIDE TOP"

No. 30.

Solid Shank.



Fig. G288.

"SANCHO"

No. 60.

Sight Feed.

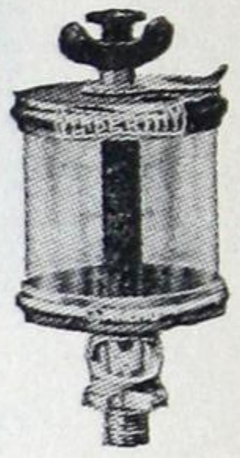


Fig. G289.

"SICO"

No. 36.

Solid Shank.



Fig. G290.

"SALUTE"

No. 55.

Sight Feed.



Fig. G291.

SIZE NUMBER		0	1	2	3	4	5	6	7
Outside Diameter Glass		1¼	1½	1¾	2	2¼	2½	3	3½
Height " "		1⅛	1⅜	1½	1¾	2⅛	2⅜	3	4
Capacity, ounces		⅝	1	1¼	2¼	4	5	10	18
Threaded for Iron Pipe		¼	¼	⅜	⅜	½	½	...	...
Safety Crank Pin	Each.	$1.50	1.75	2.00	2.50	3.00	4.00	.....	.....
Thread for Iron Pipe		⅛	¼	¼	⅜	⅜	½	½	½
"Slide Top"	Each.	$0.85	$1.00	$1.25	$1.50	$2.00	$2.50	$3.60	$5.10
"Sancho"	"	1.25	1.50	1.75	2.10	2.55	3.15	4.35	5.65
"Sico"	"	1.75	2.00	2.50	3.00	3.90	4.75	7.00	9.80
"Salute"	"	3.00	3.25	3.50	3.75	4.25	5.25	7.25	9.25
Extra Glasses	"	.16	.20	.22	.24	.30	.50	.80	1.30
" Washers	Doz.	.24	.36	.48	.60	.72	.84	1.04	1.28

GREASE CUPS.

"SAMSON" No. 80.
Screw Compression.



Fig. G297.

"SILEX" No. 90.
Spring Compression.



Fig. G298.

"SATURN" No. 95.
Plain Compression.



Fig. G299.

SIZE NO.	0	1	2	3	4	5	6	7
Outside Diameter	1 3/8	1 5/8	1 7/8	2 1/8	2 1/2	2 3/4	3 1/8	3 5/8
Height Plunger Raised	4	4 3/4	5 1/2	6 1/8	6 5/8	7	7 1/2	8 7/8
Capacity, ounces	1/3	1	1 1/2	2 1/4	3 1/4	4 3/4	6	10
Threaded for Iron Pipe	1/8	1/4	1/4	3/8	3/8	1/2	1/2	1/2
"Samson" Each.	$1.00	$1.20	$1.60	$1.80	$2.00	$2.40	$2.80	$4.00
"Silex" "	1.50	2.00	2.50	2.85	3.20	3.75	4.30	6.00
Outside Diameter, Inches	1 1/8	1 3/8	1 1/2	2	2 3/4	3 1/4	.....	...
Capacity, ounces	1/4	2/3	1	2	3 1/2	5	...	...
Threaded for Iron Pipe	1/8	1/4	1/4	3/8	1/2	1/2	...	...
"Saturn" Brass Each.	$ .70	$. 90	$1.15	$1.50	$2.15	$2.90	...	...

PLAIN STEEL GREASE CUP.



Fig. G300.

SIZE NO.	000	00	0	1	2	3	4
Inside Diameter Cap, Inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Capacity, ounces	1/3	2/3	1	1 1/2	3	5	7
Threaded for Iron Pipe	1/8	1/8	1/4	1/4	3/8	3/8	1/2
Price Each.	...	$ .70	$ .90	$1.15	$1.50	$2.15	$2.90

HANCOCK INSPIRATOR.

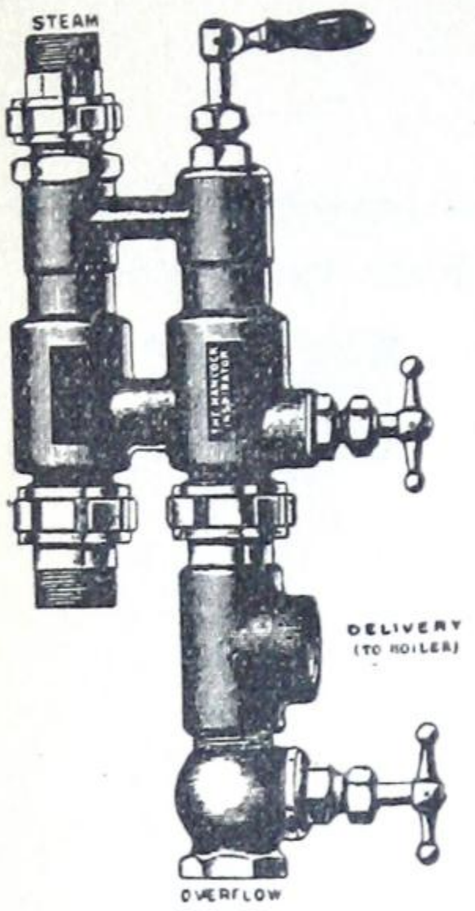


Fig. G301.

SECTIONAL.

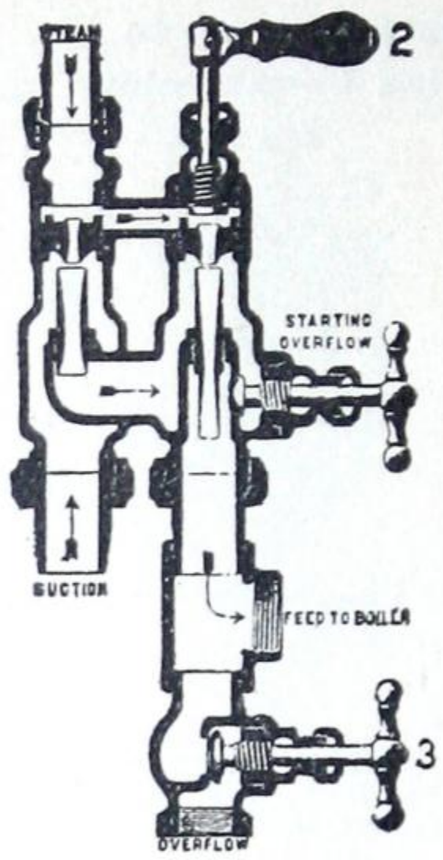


Fig. G302.

EXTRA PARTS.

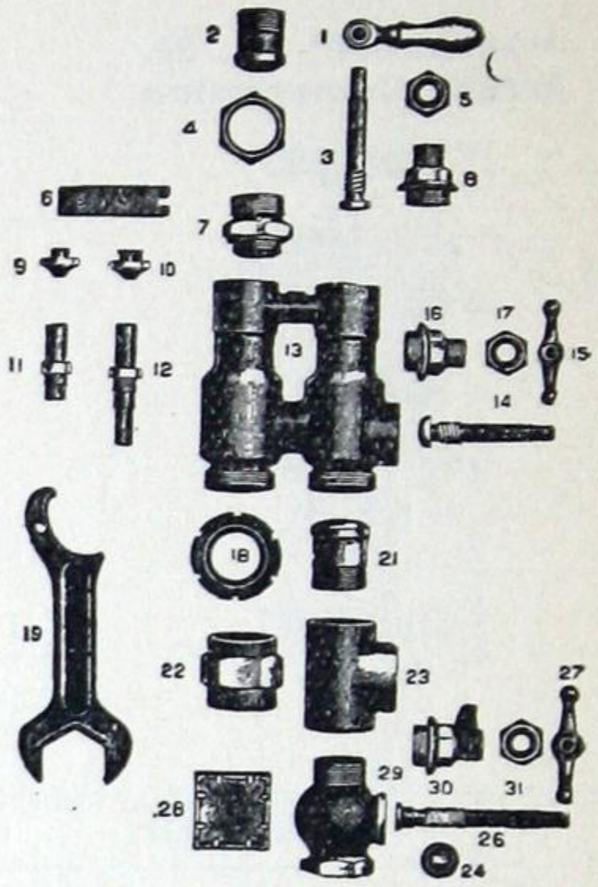


Fig. G303.

Size Number.....	$8\frac{3}{4}$	10	$12\frac{1}{2}$	15	$17\frac{1}{2}$	20	$22\frac{1}{2}$	25	30	35	40	45	50	55
Price.....Each	18.00	20.00	25.00	30.00	40.00	45.00	55.00	60.00	75.00	90.00	110.00	125.00	150.00	175.00
Size, Steam and Overfl'w	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	2	2
Size, Suction & Delivery	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	2	2	$2\frac{1}{2}$	$2\frac{1}{2}$
Gallons per hour.....	75	100	185	250	350	450	600	750	1050	1450	1850	2350	2900	3000
Horse Power.....	8	15	30	40	60	70	90	120	160	230	300	375	500	600

Capacity in imperial gallons is with 60 lb. steam pressure and 4 ft. lift.
Horse power is based on ordinary type of boiler and engine.

PRICE LIST OF PARTS OR REPAIRS.

SIZE NUMBER.	$8\frac{3}{4}$	10 & $12\frac{1}{2}$	15	$17\frac{1}{2}$ & 20	$22\frac{1}{2}$ & 25	30 & 35	40 & 45	50 & 55
1. Shank Handle.....Each.	$ .25	$ .25	$ .40	$ .50	$ .60	$ .75	$ .90	$1.25
2. Steam Nipple..... "	.25	.30	.40	.50	.75	1.00	1.25	1.50
3. Long Stem..... "	.20	.25	.30	.40	.50	.60	.75	1.00
4. Steam Coupling..... "	.20	.25	.30	.45	.60	.75	.90	1.25
5. Packing Nut..... "	.15	.20	.30	.35	.45	.55	.65	.80
6. Jet Wrench..... "	.20	.20	.30	.40	.50	.75	1.00	1.25
7. Union..... "	.35	.40	.50	.75	.85	.95	1.20	1.50
8. Top Bonnet..... "	.35	.40	.45	.70	.80	.90	1.00	1.20
9 & 10 Lift & Force Jct..... "	.50	.60	.80	1.00	1.20	1.50	2.00	2.75
11 & 12 Lift & Force Tube ..... "	.70	.90	1.20	1.50	2.50	3.50	4.50	6.00
13. Barrel..... "	4.00	5.00	6.00	8.50	12.00	16.00	20.00	25.00
14. Short Stem ..... "	.20	.25	.30	.40	.50	.75	1.00	1.25
15. Ball Handle..... "	.20	.20	.25	.25	.35	.45	.55	.75
16. Overflow Bonnet..... "	.25	.35	.40	.45	.60	.75	1.00	1.25
17. Pack Nut..... "	.15	.20	.30	.35	.40	.50	.65	.80
18. Suction & Feed Couplings... "	.25	.30	.45	.50	.65	.80	1.00	1.25
19. Spanner Wrench..... "	....	....	.25	.35	.45	.55	.75	1.00
21. Suction & Feed Nipples..... "	.25	.40	.50	.75	1.00	1.25	1.50	1.75
22. Suction Pipe Coupling..... "	.10	.15	.20	.25	.30	.40	.50	.65
23. Mall. Delivery Tee.... .... "	.05	.05	.05	.10	.18	.30	.50	1.00
24. O. F. Swivel & Nut..... "	....	....	....	.40	.40	.65	1.15	1.85
26. " Stem..... "	.25	.25	.35	.50	.75	1.00	1.25	1.50
27. " Handle..... "	.20	.20	.25	.25	.35	.45	.55	.75
28. Suction Strainer..... "	.25	.25	.30	.30	.40	....	....	....
29. Overflow Valve Body..... "	.60	.75	1.00	1.35	1.75	2.50	3.50	5.00
30. " Bonnet..... "	.25	.35	.40	.45	.60	.75	1.00	1.25
31. " Pack Nut..... "	.15	.20	.30	.35	.40	.50	.65	.80

HANCOCK EJECTOR.

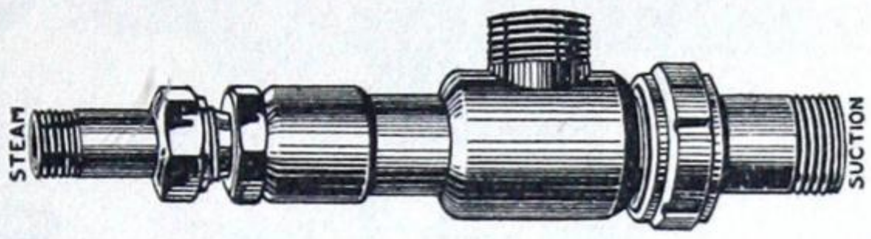


Fig. G304.

SIZE NUMBER.	10	15	20	25	30	35	40	45	50
Price.....Each.	$ 7.00	$10.00	$15.00	$20.00	$25.00	$30.00	$35.00	$40.00	$45.00
Size Steam.....	3/8	3/8	1/2	1/2	3/4	3/4	1	1	1 1/4
" Suction and Delivery.....	1/2	3/4	1	1 1/4	1 1/2	1 1/2	2	2	2 1/2
Gallons per hour.....	120	300	540	900	1260	1743	2230	2876	3480

SIZE NUMBER.	55	60	65	70	75	100	110	120	
Price.....Each.	$50.00	$55.00	$60.00	$65.00	$70.00	$75.00	$80.00	$85.00	.....
Size Steam.....	1 1/4	1 1/2	1 1/4	2	2	2 1/2	2 1/2	3	.....
" Suction and Delivery.....	2 1/2	3	3	3 1/2	3 1/2	4	4	6	.....
Gallons per hour.....	3600	4000	4520	5200	6000	10620	12900	15360	.....

PENBERTHY AUTOMATIC CELLAR DRAINER.

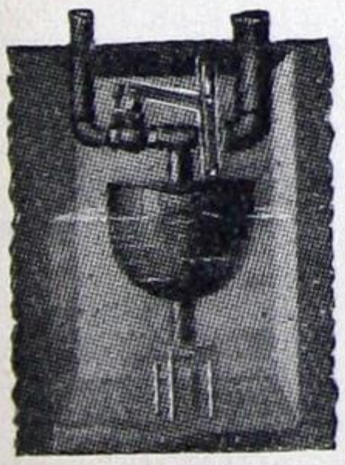


Fig. G305.

Size No.	List.	Supply Pipe.	Discharge Pipe.	Gallons per Hour 15 to 80 lbs. pres.	Extreme Width Inches.
1	$ 25.00	1/2 in.	1 in.	50 to 250	9
2	40.00	3/4 "	1 1/4 "	100 " 400	10 1/2
3	55.00	1 "	1 1/2 "	150 " 600	13 1/2
4	80.00	1 1/4 "	2 "	200 " 800	17 1/2
5	110.00	1 1/2 "	2 1/2 "	275 " 1000	20
6	160.00	2 "	3 "	350 " 1200	24
7	225.00	2 1/2 "	3 1/2 "	450 " 1500	28
8	300.00	3 "	4 "	600 " 2000	32

PENBERTHY INJECTOR.

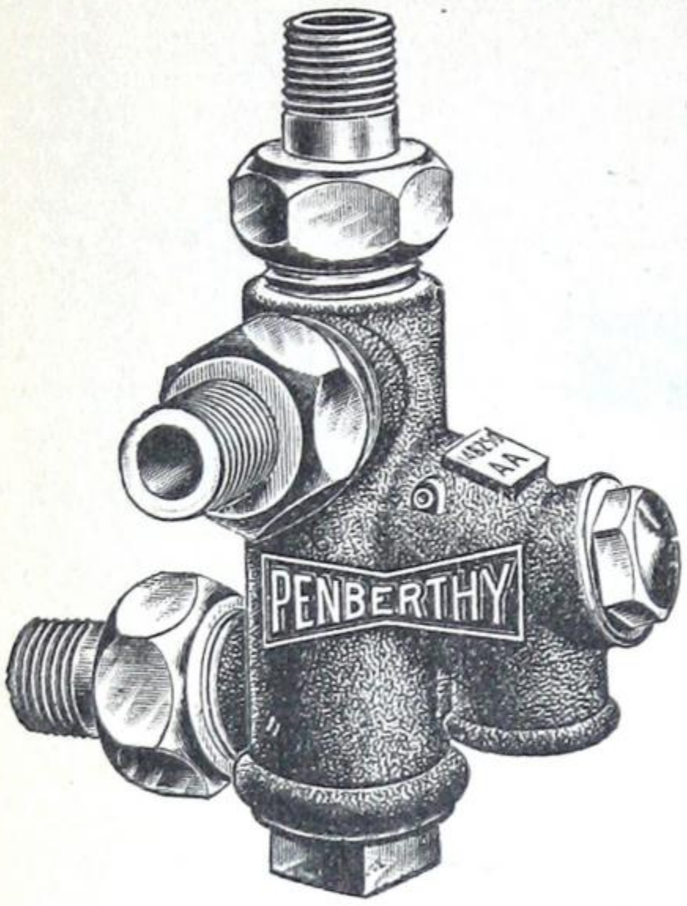


Fig. G306.

SECTION.

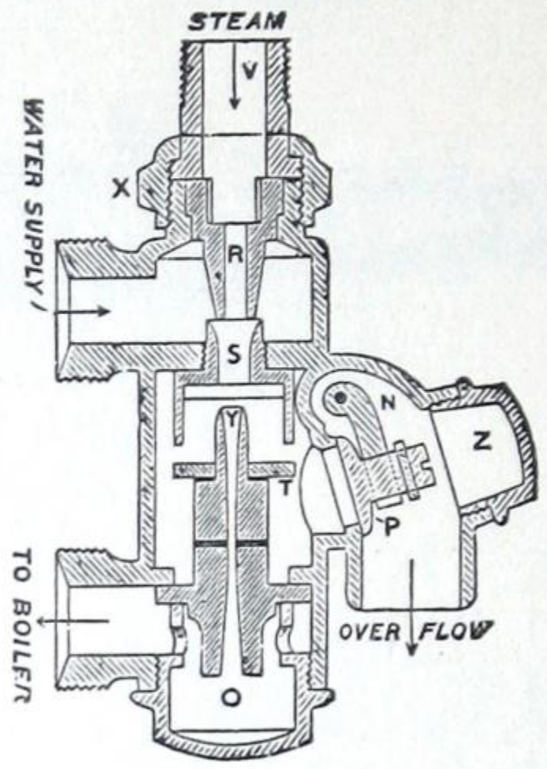


Fig. G307.

PARTS.

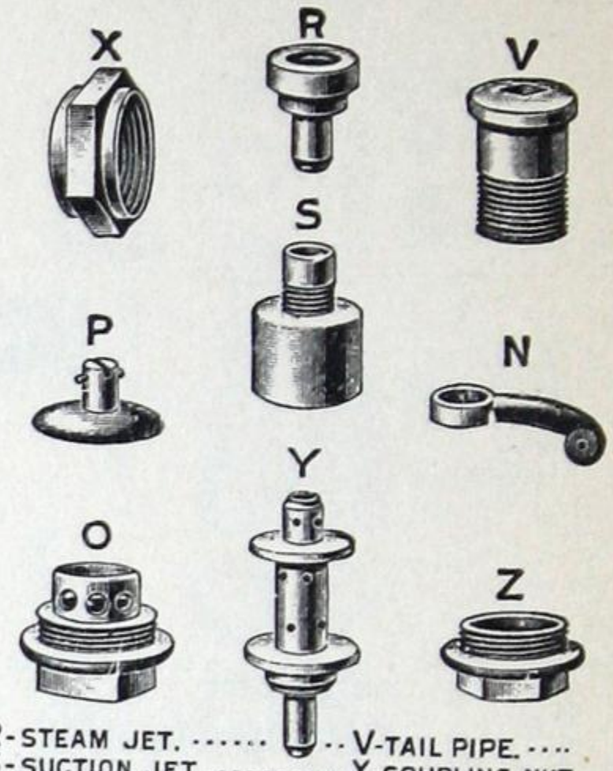


Fig. G308.

Size	Price.	Horse Power Based on Ordinary Tub. Boiler	Horse Power Based on 30 lbs. Water Per H. P. Per Hour.	Pipe Connection	Capacity per hour, 1 to 3 ft. lift, 60 to 85 lbs. Steam Pressure.	
					Max. Gall.	Min. Gall.
0	$15.00	3 to 6	4 to 8	¼ inch	60	35
00	16.00	4 " 8	6 " 12	⅜ "	80	45
A	18.00	8 " 16	10 " 20	½ "	135	70
AA	20.00	12 " 22	15 " 30	½ "	180	100
B	25.00	17 " 32	22 " 45	¾ "	260	140
BB	30.00	20 " 45	25 " 60	¾ "	360	180
C	40.00	40 " 65	45 " 80	1 "	475	250
CC	45.00	45 " 80	50 " 100	1 "	600	325
D	55.00	50 " 100	60 " 135	1¼ "	800	425
DD	60.00	75 " 135	85 " 165	1¼ "	1,000	525
E	75.00	100 " 180	125 " 235	1½ "	1,400	740
EE	90.00	115 " 255	150 " 320	1½ "	1,900	850
F	100.00	160 " 320	200 " 400	2 "	2,400	1,275
FF	125.00	200 " 400	250 " 500	2 "	3,000	1,600
G	150.00	300 " 500	325 " 600	2½ "	3,600	1,875
GG	200.00	375 " 600	400 " 750	2½ "	4,200	2,150

N.B.—Where Injectors are ordered by size connections, we always send the size having the larger capacity. Order by letter.

PRICE LIST OF PARTS OR REPAIRS

SIZE INJECTOR.	0 or 00	A or AA	B or BB	C or CC	D or DD	E	EE	F	FF	G or GG
R—Steam Jet	$ .25	$ .35	$ .45	$ .55	$ .65	$ .75	$.75	$.85	$1.00	$2.00
S—Suction Jet	.25	.35	.45	.55	.65	.75	.75	.85	1.00	3.00
Y-T—Delivery Jet	1.25	1.50	2.00	2.50	3.00	3.75	4.50	5.50	6.50	9.00
X—Coupling Nut	.25	.30	.40	.50	.60	1.25	1.25	1.50	1.50	2.00
V—Tail Pipe	.25	.30	.40	.50	.60	.80	.80	1.00	1.00	1.25
Z—Overflow Cap	.30	.40	.50	.60	.70	.80	.80	.90	.90	1.50
P—Overflow Valve	.40	.50	.60	.75	.90	1.00	1.10	1.25	1.25	1.75
N—Overflow Hinge	.10	.10	.15	.15	.15	.20	.20	.20	.20	.30
O—Plug	.60	.80	1.00	1.25	1.50	1.75	1.75	2.00	2.00	4.00
Strainer	.40	.45	.50	.55	.60	.75	.75	1.00	1.00	1.50

PENBERTHY EJECTOR.



Fig. G309.

Lifts 22 to 25 feet. **Elevates 25 to 100 feet.** **30 to 100 lbs. pressure.**

Size Number.	1	2	3	4	5	6	7	8	9	10
Price, all Brass, each	$8.00	$10.00	$15.00	$20.00	$25.00	$35.00	$50.00	$70.00	105.00	145.00
Price iron body; brass jets.....Each.	Sizes 1 to 4 Made in all Brass only.				20.00	27.50	40.00	50.00	70.00	95.00
Pipe Connection, Steam	⅜	½	¾	1	1	1¼	1½	2	2	2½
Pipe Connection, Suction and Delivery	½	¾	1	1¼	1½	2	2½	3	3½	4
Capacity per hour.										
40 to 65 lbs. steam, 3 feet lift, galls	240	500	840	1,350	1,950	3,500	5,700	9,500	13,600	18,400
20 to 40 lbs. or 65 to 100 lbs., galls	235	450	700	1,300	1,850	3,000	4,350	8,160	12,400	17,100
40 to 65 lbs., 50 feet elevation, galls	120	250	420	650	975	1,750	2,500	4,750	6,800	9,200
40 to 65 lbs., 25 feet elevation, galls	180	375	625	950	1,450	2,600	3,750	7,200	10,200	13,800
Vertical Lift.										
40 to 75 lbs. steam, feet	23	25	25	24	26	26	26	25	25	25
25 to 40 or 75 to 100 lbs., feet	20	22	22	21½	21½	21½	22	20	21	21

PRICE LIST OF PARTS OR REPAIRS.

Size Number	1	2	3	4	5	6	7	8	9	10
Steam Jet	$ 25	$ .35	$ .45	$ .55	$ .60	$.80	$1.00	$1.25	$1.50	$2.00
Delivery Jct	.80	1.00	1.25	1.50	1.75	2.50	4.00	6.00	8.00	10.00
Tail Pipe	.25	.30	.40	.50	.50	.60	.80	1.00	1.00	1.25
Coupling Nut	.25	.30	.40	.50	.50	.60	1.25	1.50	1.50	2.00
Strainer	.45	.50	.55	.60	.75	1.00	1.50	.....	.....	.....

Ejectors are shipped without Strainers. We can furnish them where desired up to No. 7. Strainers for larger sizes are unnecessary.

NOISELESS WATER HEATER or STEAM MUFFLER.

Size No.	Price Each	Steam Pipe.	Discharge Pipe.	Capacity*
F	$1.50	¼	⅜	50 galls.
G	1.75	⅜	½	60 "
H	2.00	½	¾	75 "
J	2.50	¾	1	100 "
K	3.00	1	1¼	125 "
L	4.00	1¼	1½	175 "
M	5.00	1½	2	250 "
N	8.00	2	2½	500 "



Fig. G311.



Fig. G312.

*Number of gallons of water heated from 70 degrees to 210 degrees in 30 minutes with 70 lbs. steam pressure. Cut piece of pipe about 10″ or 12″ long and place as shown in Fig. G312.

PACKINGS.

SHEET RUBBER.

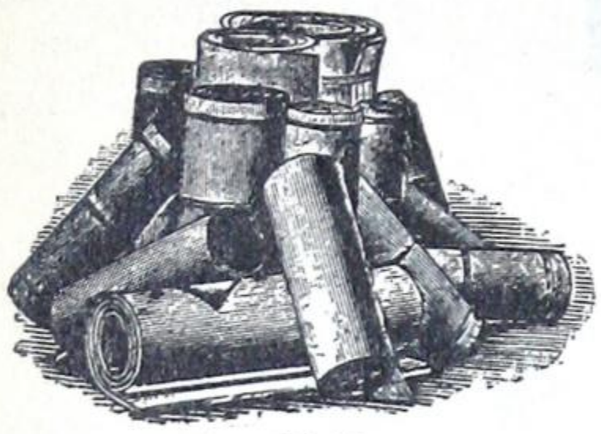


Fig. G316.

3 feet wide.

Thickness....	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{3}{32}$ to $\frac{1}{4}$
Price per lb...	65	60	55

"REDSTONE." High Pressure.



Fig. G317.

Thickness $\frac{1}{32}$ $\frac{1}{16}$ $\frac{3}{32}$ and $\frac{1}{8}''$
Regular.....per lb. $1.00
Iron Wire Insertion " 1.10
Brass " " " 1.10

JENKINS' 96. Washers Cut to Order.

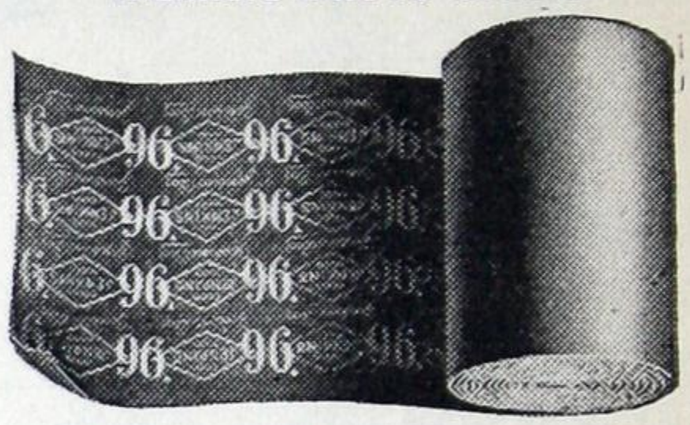


Fig. G318.
36" wide.

Thickness $\frac{1}{32}$ $\frac{1}{16}$ $\frac{3}{32}$ $\frac{1}{8}$ $\frac{3}{16}$ and $\frac{1}{4}''$
Regular.....per lb. $1.00
Steel Wire Insertion " 1.25
Brass " " " 1.55

SQUARE FLAX.



Fig. G321.
$\frac{1}{4}''$ to $1\frac{1}{2}''$.
Price per lb.....$1.00

SQUARE DUCK.



Fig. G322.
$\frac{1}{4}''$ and Larger.
Price per lb...$ .85

ROUND DUCK. Rubber Core.

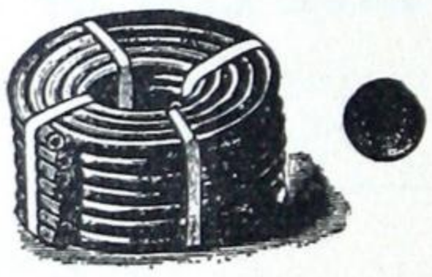


Fig. G323.
$\frac{1}{4}''$ and Larger.
Price per lb.....$ .85

RUBBER BACK.



Fig. G324.
$\frac{1}{4}''$ and Larger.
Price per lb.....$1.00

SPIRAL.



Fig. G325.
$\frac{3}{16}$ to 1". In 12' lengths.
Price per lb.....$1.20

JUTE.



Fig. G326.
Price per lb... $0.10

COTTON WICK.



Fig. G327.
Price per lb.... $0.50

ASBESTOS WICK.



Fig. G328.
Price per lb...$0.60

ASBESTOS SHEATHING.

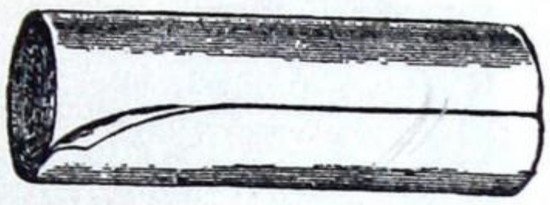


Fig. G329.

Rolls of about 100 lbs.
36″ wide.
Thicknesses 6, 8, 10 and 14 lbs. to the 100 sq. feet. $\frac{1}{32}$ or 16 lbs. to 100 sq. feet, and $\frac{1}{16}$ or 32 lbs. to 100 sq. feet.
Roll Board $\frac{1}{8}$″ thick.
Price per lb.....$0.10

ASBESTOS MILL BOARD.



Fig. G330.

Sheets 40″ x 40″
$\frac{1}{32}$ to $\frac{1}{2}$″ Thick.

Thickness in Inches.....	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Approx. Wt. per sheet...	2	4½	6	8½	12	17	25	30

Price per lb.....$0.10

PACKINGS.



ASBESTOS PACKINGS.

Sizes $\frac{1}{4}$″ to 3″

Lengths of about 12 ft.

Price per lb.....$1.00

PUMP VALVES.

Made to order only.

Give diameter, thickness and size of hole and for what purpose to be used.
Price on application.



Fig. G332.

HAIR FELT.

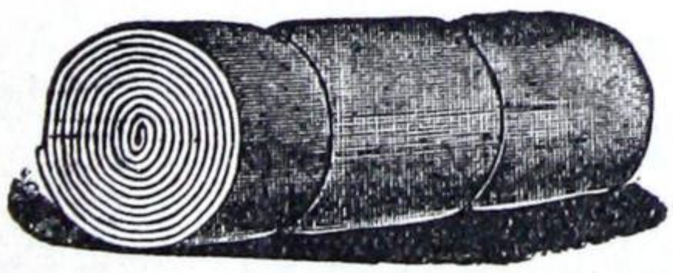


Fig. G336.

Thickness, Inch.....	½	¾	1
Price per Sq. foot.....	.08	.10	.12

6 ft. wide in Rolls 300 sq. feet.

OAKUM.



Fig. G337.

50 lb. Bales.—Per lb.....$ .10

DIXON'S GRAPHITE PIPE JOINT COMPOUND.



Fig. G338.

4 oz.	Tube.....each.	$	.40
1 lb.	Tin.....per lb.		.55
5 "	" ..... " "		.50

DIXON'S FLAKE GRAPHITE.



Fig. G339.

In lb.	Tins.....per lb.	$	.55
" 5	" ..... " "		.50

NOTE.—Cotton Wick and Asbestos Wick Packings when **thoroughly saturated** with regular machine oil mixed with Dixon's Dry Graphite make a good valve stem, Hand Hole or Manhole Packing, taking care to use asbestos where likely to scorch or burn cotton.

SMOOTH-ON IRON CEMENTS.

SMOOTH-ON COMPOUNDS

No. 1.

In Blue Labeled Cans.

Are for repairing breaks or leaks of Steam, Water, Fire or Oil in Castings, Piping, etc. No. 1 Quick Hardening. Prepared and sold in powder form.

No. 1.



Fig. G340a.

Price $1.00

SMOOTH-ON ELASTIC

No. 3.

In Gray Labeled Cans.

A Plastic Iron Cement, prepared for use on Seams of Boilers or Tanks to stop Leaks. Also for Boiler Patching and for Screw-Thread Joints. Prepared and sold in paste form.

No. 3.



Fig. G340b.

Price $1.00

GAUGE GLASS WASHERS.

SQUARE



Fig. G341.

Size	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Square, per doz	$ .20	$ .24	$ .30	$ .50
Round	.20	.24	.30	.50

ROUND



Fig. G342.

GASKETS.

Corrugated Copper.



Fig. G343a.

Corrugated Copper. Asbestos Cord Filled.



Fig. G343b.

Self-Sealing. Copper. Asbestos Filled.



Fig. G343c.

STANDARD.

Size Pipe	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Inside Diameter	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Outside Diameter	$4\frac{1}{8}$	$4\frac{7}{8}$	$5\frac{3}{8}$	$6\frac{3}{8}$	$6\frac{3}{4}$	7	$7\frac{3}{4}$	$8\frac{3}{4}$	10	11	$12\frac{1}{2}$	$13\frac{3}{8}$	$16\frac{1}{8}$	$17\frac{3}{4}$
Fig. G343a.....each	$.21	.27	.31	.47	.47	.45	.55	.63	.80	.89	1.18	1.29	1.89	1.87
Fig. G343b..... "	$.32	.40	.48	.56	.64	.72	.80	.96	1.12	1.28	1.44	1.60	1.92	2.24
Inside Diameter	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Outside Diameter	4	$4\frac{3}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$	$6\frac{5}{8}$	$6\frac{7}{8}$	$7\frac{5}{8}$	$8\frac{5}{8}$	$9\frac{7}{8}$	$10\frac{7}{8}$	$12\frac{3}{8}$	$13\frac{1}{4}$	16	$17\frac{5}{8}$
Gig. F343c.....each.	$.20	.30	$.35	$.48	$.55	$.55	$.70	$.84	$.98	$1.12	$1.38	$1.50	$1.70	$1.89

EXTRA HEAVY.

Size of Pipe	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Inside Diameter	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Outside Diameter	$4\frac{3}{8}$	$5\frac{1}{8}$	$5\frac{7}{8}$	$6\frac{1}{2}$	$7\frac{1}{8}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$9\frac{7}{8}$	11	$12\frac{1}{8}$	13	$14\frac{1}{4}$	$16\frac{5}{8}$	$19\frac{1}{8}$
Fig. G343a.....each.	$.24	$.31	$.40	$.47	$.58	$.62	$.74	$1.00	$1.13	$1.35	$1.38	$1.62	$2.15	$2.74
Fig. G343b..... "	.36	.45	.54	.62	.72	.81	.90	1.08	1.26	1.44	1.62	1.80	2.16	2.52
Inside Diameter	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14
Outside Diameter	$4\frac{1}{4}$	5	$5\frac{7}{8}$	$6\frac{1}{2}$	7	$7\frac{5}{8}$	$8\frac{3}{8}$	$9\frac{3}{4}$	$10\frac{7}{8}$	12	13	$14\frac{1}{4}$	$16\frac{3}{4}$	19
Fig. G343c.....each.	$.25	$.30	$.40	$.48	.$55	$.70	$.77	$.98	$1.12	1.25	$1 38	$1.60	$1.81	$1.97

CAST IRON FITTINGS.

ELBOW Straight



Fig. G401

ELBOW Reducing



Fig. G402

ELBOW 45°



Fig. G403

ELBOW Right & Left



Fig. G404

TEE Straight



Fig. G405

TEE Reducing



Fig. G406

TEE Reducing



Fig. G407

CROSS Straight



Fig. G408

CROSS Reducing



Fig. G409

COUPLING Reducing



Fig. G410

PLUG



Fig. G411

PLUG Countersunk



Fig. G412

BUSHING



Fig. G413

BUSHING Faced



Fig. G414

CAP



Fig.G415

LOCK-NUT



Fig. G416

FLANGE Union

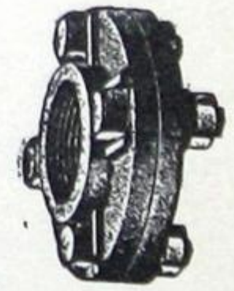


Fig. G417

Y BRANCH



Fig. G418

RETURN BEND Close



Fig. G419

RETURN BEND Open



Fig. G420

RETURN BEND Back Outlet



Fig. G421

NOTE. Tees reducing on outlet $2'' \overset{1\frac{1}{4}''}{\perp} 2''$ are read 2 x 1¼

Tees reducing on Run $2'' \overset{1\frac{1}{4}''}{\perp} 1\frac{1}{2}''$ are read 2 x 1½ x 1½

Tees with both ends of run the same size with the outlet larger $1'' \overset{2}{\perp} 1''$ are read 1 x 2, and are known as Bull Head.

The outlets of a cross are always the same size and are indicated by the last figure.

$\frac{3}{4}'' \overset{\frac{1}{2}}{\underset{\frac{1}{4}}{+}} \frac{3}{4}''$ is called ¾ x ½; $1\frac{1}{2}'' \overset{1}{\underset{1}{+}} 1\frac{1}{4}''$ is called 1½ x 1¼ x 1.

CAST IRON FITTINGS.—Standard Screwed.

Size, Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Straight Elbows	.05	.05	.06	.08	.10½	.16	.20	.28	.50	.75	1.05	1.20	1.75	2.00	2.75	4.70	6.75	9.00	13.50	20.00
Reducing Elbows	.....	.06	.07	.09	.12	.18	.23	.32	.60	.85	1.20	1.40	2.00	2.30	3.15	5.40	7.75	10.50	15.50	23.00
Right and Left Elbows	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
45 degree Elbows	.....	.06	.07	.10	.12	.19	.24	.34	.60	.90	1.25	1.45	2.20	2.50	3.45	5.90	8.50	11.25	17.00	25.00
Straight Tees	.08	.08	.09	.12	.15	.23	.29	.41	.73	1.10	1.50	1.75	2.55	3.00	4.00	6.80	9.75	13.00	19.50	29.00
Reducing Tees	.....	.....	.10	.14	.17	.27	.33	.47	.83	1.25	1.75	2.00	2.95	3.50	4.60	7.80	11.25	15.00	22.50	33.50
Straight Crosses	.....	.....	.16	.22	.27	.42	.53	.75	1.30	2.00	2.70	3.15	4.60	5.50	7.25	12.25	17.50	23.50	35.00	52.50
Reducing Crosses	.....	.....	.18	.25	.30	.46	.60	.83	1.45	2.20	3.00	3.50	5.10	6.00	8.00	13.50	19.25	26.00	38.50	58.00
Reducing Couplings	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.85	2.00	2.70	5.35	6.75	8.35	10.00	15.00
Plugs	.02	.02	.02	.03	.04	.05	.07	.10	.18	.25	.38	.42	.65	.88	1.20	1.85	2.75	3.25	3.75	5.00
" Left Hand	.....	.....	.04	.06	.08	.09	.11	.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Countersunk	.....	.....	.04	.06	.08	.09	.11	.15	.30	.40	.92	1.10	.....	2.00	3.50	.....	.....	.....	.....	.....
Solid Plugs	.04	.04	.04	.06	.08	.09	.11	.15	.27	.38	.57	.63	1.00	1.35	1.80	.....	.....	.....	.....	.....
Bushings	.04	.04	.04	.05	.06	.07	.09	.14	.21	.30	.40	.50	.75	.93	1.25	1.87	2.75	3.25	3.75	5.00
" Left, Right and Left	.....	.....	.....	.....	.12	.14	.18	.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Faced	.....	.08	.09	.11	.13	.17	.22	.32	.48	.70	1.20	1.50	2.10	2.60	3.75	.....	.....	.....	.....	.....
Caps	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.87	1.05	1.20	1.55	2.50	2.85	4.75	5.50	7.00
Locknuts	.....	.....	.....	.....	.....	.....	.....	.....	.27	.34	.47	.64	.85	.90	1.30	1.70	2.35	2.70	3.00	4.00
Flange Unions	.....	.....	.40	.46	.52	.64	.78	1.00	1.25	1.50	1.80	2.10	2.70	3.15	3.95	5.50	7.00	10.00	11.50	16.00
Y Branches	.....	.....	.20	.28	.34	.54	.66	.94	1.66	2.50	3.50	4.00	5.90	7.00	9.20	15.60	22.50	.....	45.00	67.00

Return Bends, Close,	Straight	.18	.20	.22	.28	.40	.57	1.20	1.70	.....	5.00
" "	Pitched, Right & Left or Right	.....	.....	.26	.33	.....	.....	.....	.....	.....	.....
" "	R. & L. or Left	.21	.23	.26	.33	.46	.66	1.40	1.95	.....	5.25
" Open,	Right	.....	.26	.30	.40	.55	.80	1.35	2.20	.....	6.50
" "	Right & Left	.....	.30	.35	.46	.64	.92	1.55	2.50	.....	.....
" "	Back Outlet, R	.....	.38	.42	.60	.80	1.15	2.00	3.00	4.00	5.00
" "	" R. & L	.....	.42	.48	.70	.95	1.30	2.30	3.50	4.60	5.75

NOTE—Galvanized Fittings—Double list of Black

Bushings reducing one size up to 2½" are Malleable.

Elbows of any angle made to order at Special Prices.

Eccentric Fittings.—Inquiries or orders should always be accompanied with a sketch showing exact position of openings.



Fig. G422.

CAST IRON FITTINGS.

OFFSETS.

SIZE, INCHES	¾	1	1¼	1½	2	2½	3	3½	4	5	6
To Offset 4″	$ .45	$.70	$1.00	$1.20	$1.80	$3.00	$4.00	$5.00	$6.00	$8.00	$10.00
do 6″	.67	1.05	1.50	1.80	2.70	4.50	6.00	7.50	9.00	12.00	15.00
do 8″	.90	1.40	2.00	2.40	3.60	6.00	8.00	10.00	12.00	16.00	20.00



Fig. G423.

FLANGES.

SIZES	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3	.10	.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3½	.15	.15	.15	.15	.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	.22	.22	.22	.16	.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4½	.25	.25	.25	.25	.25	.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	.35	.35	.30	.30	.30	.30	.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5½	.45	.45	.45	.40	.40	.40	.35	.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6	.50	.50	.50	.42	.40	.40	.42	.42	.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6½	.....	.65	.60	.60	.60	.55	.50	.50	.50	.65	.....	.....	.....	.....	.....	.....	.....	.....	.....
7	.....	.75	.75	.75	.70	.70	.62	.62	.62	.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
7½	.....	.90	.90	.90	.85	.85	.80	.80	.75	.85	.90	.....	.....	.....	.....	.....	.....	.....	.....
8	.....	1.00	1.00	1.00	.95	.95	.90	.90	.90	.90	.90	.....	.....	.....	.....	.....	.....	.....	.....
8½	.....	1.25	1.25	1.25	1.15	1.15	1.10	1.10	1.10	1.00	1.00	.....	.....	.....	.....	.....	.....	.....	.....
9	.....	.....	.....	1.35	1.35	1.35	1.30	1.25	1.15	1.15	1.15	1.15	1.40	.....	.....	.....	.....	.....	.....
9½	.....	.....	.....	.....	1.90	1.90	1.75	1.75	1.60	1.60	1.50	1.25	1.50	1.50	.....	.....	.....	.....	.....
10	.....	.....	.....	.....	2.25	2.25	2.15	2.00	1.80	1.50	1.50	1.50	1.50	1.50	.....	.....	.....	.....	.....
11	.....	.....	.....	.....	.....	.....	2.50	2.50	2.25	2.25	2.00	1.75	1.75	1.75	2.20	.....	.....	.....	.....
12	.....	.....	.....	.....	.....	.....	.....	3.00	3.00	2.75	2.50	2.50	2.20	2.20	2.20	2.80	.....	.....	.....
13	.....	.....	.....	.....	.....	.....	.....	.....	3.50	3.50	3.25	3.00	3.00	2.80	2.80	2.80	.....	.....	.....
14	.....	.....	.....	.....	.....	.....	.....	.....	4.00	4.00	3.75	3.75	3.50	3.25	3.25	3.25	3.75	4.00	.....
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.00	4.00	4.00	4.50	.....
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.00	5.00	5.00	5.00	6.00
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.50	6.50	5.75	5.75	7.00
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.00	8.00	7.00	7.00
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.50	7.50
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.50

Outside Diameters in Inches.



Fig. G425.

CAST IRON FLOOR FLANGES.

SIZES. Inches	¼	⅜	½	¾	1	1¼	1½	2	2½
Diameter..... "	2½	2½	3	3½	4	4½	5	5½	6½
Price.....each.	$ .14	$ .14	$ .15	$ .18	$ .22	$ .30	$ .36	$ .45	$ .75

LIST OF SIZES

STANDARD CAST IRON FITTINGS.

ELBOWS.

Size	Size	Size	Size
1/4 x 1/4	1 1/4 x 1	2 1/2 x 1 1/2	4 1/2 x 4 1/2
3/8 x 3/8	1 1/4 x 3/4	2 1/2 x 1 1/4	5 x 5
3/8 x 1/4	1 1/4 x 1/2	3 x 3	5 x 4
1/2 x 1/2	1 1/2 x 1 1/2	3 x 2 1/2	5 x 3
1/2 x 3/8	1 1/2 x 1 1/4	3 x 2	6 x 6
1/2 x 1/4	1 1/2 x 1	3 x 1 1/2	6 x 5
3/4 x 3/4	1 1/2 x 3/4	3 1/2 x 3 1/2	6 x 4
3/4 x 1/2	2 x 2	3 1/2 x 3	7 x 7
3/4 x 3/8	2 x 1 1/2	3 1/2 x 2 1/2	8 x 8
1 x 1	2 x 1 1/4	4 x 4	8 x 6
1 x 3/4	2 x 1	4 x 3 1/2	9 x 9
1 x 1/2	2 1/2 x 2 1/2	4 x 3	10 x 10
1 1/4 x 1 1/4	2 1/2 x 2	4 x 2 1/2	12 x 12

45° ELBOWS.

Size, Inches.....	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Size, Inches.....	4	4 1/2	5	6	7	8	9	10	12	

RIGHT AND LEFT ELBOWS.

Size, Inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3

TEES.

Size	Size	Size	Size
1/4 x 1/4 x 1/4	1 1/4 x 1 1/4 x 1	1 1/2 x 3/4 x 1	1 1/2 x 1 1/2 x 2
3/8 x 3/8 x 3/8	1 1/4 x 1 1/4 x 3/4	1 1/2 x 3/4 x 3/4	1 1/2 x 1 1/4 x 2
1/2 x 1/2 x 1/2	1 1/4 x 1 1/4 x 1/2	1 1/2 x 1/2 x 1 1/2	1 1/2 x 1 x 2
1/2 x 1/2 x 3/8	1 1/4 x 1 1/4 x 3/8	1 1/2 x 1/2 x 1 1/4	1 1/4 x 1 1/4 x 2
1/2 x 1/2 x 1/4	1 1/4 x 1 x 1 1/4	1 1/4 x 1 1/4 x 1 1/2	1 1/4 x 1 x 2
1/2 x 3/8 x 1/2	1 1/4 x 1 x 1	1 1/4 x 1 x 1 1/2	1 x 1 x 2
3/4 x 3/4 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 3/4 x 1 1/2	
3/4 x 3/4 x 1/2	1 1/4 x 3/4 x 1 1/4	1 x 1 x 1 1/2	2 1/2 x 2 1/2 x 2 1/2
3/4 x 3/4 x 3/8	1 1/4 x 3/4 x 3/4	1 x 3/4 x 1 1/2	2 1/2 x 2 1/2 x 2
3/4 x 3/4 x 1/4	1 1/4 x 1/2 x 1 1/4		2 1/2 x 2 1/2 x 1 1/2
3/4 x 3/4 x 3/4	1 1/4 x 1/2 x 1	2 x 2 x 2	2 1/2 x 2 1/2 x 1 1/4
3/4 x 1/2 x 3/4	1 x 1 x 1 1/4	2 x 2 x 1 1/2	2 1/2 x 2 1/2 x 1
1/2 x 1/2 x 1/2	1 x 3/4 x 1 1/4	2 x 2 x 1 1/4	2 1/2 x 2 1/2 x 3/4
	3/4 x 3/4 x 1 1/4	2 x 2 x 1	2 1/2 x 2 1/2 x 1/2
1 x 1 x 1		2 x 2 x 3/4	2 1/2 x 2 x 2 1/2
1 x 1 x 3/4	1 1/2 x 1 1/2 x 1 1/2	2 x 2 x 1/2	2 1/2 x 2 x 2
1 x 1 x 1/2	1 1/2 x 1 1/2 x 1 1/4	2 x 1 1/2 x 2	2 1/2 x 2 x 1 1/2
1 x 1 x 3/8	1 1/2 x 1 1/2 x 1	2 x 1 1/2 x 1 1/2	2 1/2 x 2 x 1 1/4
1 x 1 x 1/4	1 1/2 x 1 1/2 x 3/4	2 x 1 1/2 x 1 1/4	2 1/2 x 2 x 1
1 x 3/4 x 1	1 1/2 x 1 1/2 x 1/2	2 x 1 1/2 x 1	2 1/2 x 2 x 3/4
1 x 3/4 x 2	1 1/2 x 1 1/4 x 1 1/2	2 x 1 1/2 x 3/4	2 1/2 x 2 x 1/2
1 x 3/4 x 1/2	1 1/2 x 1 1/4 x 1 1/4	2 x 1 1/2 x 1/2	2 1/2 x 1 1/2 x 2 1/2
1 x 1/2 x 1	1 1/2 x 1 1/4 x 1	2 x 1 1/4 x 2	2 1/2 x 1 1/2 x 2
1 x 1/2 x 3/4	1 1/2 x 1 1/2 x 3/4	2 x 1 1/4 x 1 1/2	2 1/2 x 1 1/2 x 1 1/2
1 x 1/2 x 1/2	1 1/2 x 1 1/2 x 1/2	2 x 1 1/4 x 1 1/4	2 1/2 x 1 1/2 x 1 1/4
1 x 3/8 x 1	1 1/2 x 1 x 1 1/2	2 x 1 1/4 x 1	2 1/2 x 1 1/4 x 2 1/2
1 x 1/4 x 1	1 1/2 x 1 x 1 1/4	2 x 1 1/4 x 3/4	2 1/2 x 1 1/4 x 2
3/4 x 3/4 x 1	1 1/2 x 1 x 1	2 x 1 x 2	2 1/2 x 1 1/4 x 1 1/2
1/2 x 1/2 x 1	1 1/2 x 1 x 3/4	2 x 1 x 1 1/2	2 1/2 x 1 x 2 1/2
1 1/4 x 1 1/4 x 1 1/4	1 1/2 x 3/4 x 1 1/2	2 x 1 x 1 1/4	2 1/2 x 3/4 x 2 1/2
	1 1/2 x 3/4 x 1 1/4	2 x 1 x 1	2 x 2 x 2 1/2
		2 x 3/4 x 2	2 x 1 1/2 x 2 1/2
		2 x 1/2 x 2	1 1/2 x 1 1/2 x 2 1/2

TEES.—Continued.

Size.
3 x 3 x 3
3 x 3 x 2½
3 x 3 x 2
3 x 3 x 1½
3 x 3 x 1¼
3 x 3 x 1
3 x 3 x ¾
3 x 2½ x 3
3 x 2½ x 2½
3 x 2½ x 2
3 x 2½ x 1½
3 x 2½ x 1¼
3 x 2½ x 1
3 x 2 x 2½
3 x 2 x 2
3 x 2 x 1½
3 x 2 x 1¼
3 x 2 x 1
3 x 1½ x 3
3 x 1½ x 2½
3 x 1½ x 2
3 x 1½ x 1½
3 x 1½ x 1¼
3 x 1½ x 1
3 x 1¼ x 3
3 x 1¼ x 2½
3 x 1¼ x 2
3 x 1¼ x 1½
3 x 1¼ x 1¼
3 x 1¼ x 1
3 x 1 x 2½
3 x 1 x 2
3 x 1 x 1½
3 x 1 x 1¼
3 x 1 x 1
2½ x 2 x 2
2½ x 2 x 1½
2½ x 2 x 1¼
2½ x 2 x 1
2½ x 1½ x 1
2½ x 1¼ x 1
2 x 2 x 2
2 x 2 x 1½
2 x 2 x 1¼
2 x 2 x 1
2 x 1½ x 1
2 x 1¼ x 1
1½ x 1½ x 1½
1½ x 1½ x 1¼
1½ x 1½ x 1
1½ x 1½ x ¾
1½ x 1½ x ½
1½ x 1¼ x 1¼
1½ x 1¼ x 1
1½ x 1¼ x ¾
1½ x 1¼ x ½
1½ x 1 x 1
1½ x 1 x ¾
1½ x 1 x ½
1¼ x 1¼ x 1¼
1¼ x 1¼ x 1
1¼ x 1¼ x ¾
1¼ x 1¼ x ½
1¼ x 1 x 1
1¼ x 1 x ¾
1¼ x 1 x ½
1 x 1 x 1
1 x 1 x ¾
1 x 1 x ½
¾ x ¾ x ¾
¾ x ¾ x ½
½ x ½ x ½

Size.
3½ x 2½ x 2
3½ x 2 x 3½
3½ x 1½ x 3½
3½ x 1¼ x 3½
3½ x 1 x 3½
3 x 3 x 3½
4 x 4 x 4
4 x 4 x 3½
4 x 4 x 3
4 x 4 x 2½
4 x 4 x 2
4 x 4 x 1½
4 x 4 x 1¼
4 x 4 x 1
4 x 3½ x 4
4 x 3½ x 3½
4 x 3½ x 3
4 x 3½ x 2½
4 x 3½ x 2
4 x 3½ x 1½
4 x 3½ x 1¼
4 x 3 x 4
4 x 3 x 3½
4 x 3 x 3
4 x 3 x 2½
4 x 3 x 2
4 x 3 x 1½
4 x 3 x 1¼
4 x 3 x 1
4 x 2½ x 4
4 x 2½ x 2½
4 x 2 x 4
4 x 2 x 2
4 x 1½ x 4
4 x 1¼ x 4
4 x 1 x 4
3½ x 3½ x 4
3½ x 3 x 4
2½ x 2½ x 4
2 x 2 x 4
4½ x 4½ x 4½
4½ x 4½ x 4

Size.
4½ x 4½ x 3½
4½ x 4½ x 3
4½ x 4½ x 2½
4½ x 4½ x 2
4½ x 4½ x 1½
4½ x 4½ x 1¼
5 x 5 x 5
5 x 5 x 4½
5 x 5 x 4
5 x 5 x 3½
5 x 5 x 3
5 x 5 x 2½
5 x 5 x 2
5 x 5 x 1½
5 x 5 x 1¼
5 x 5 x 1
5 x 4½ x 5
5 x 4½ x 4½
5 x 4½ x 4
5 x 4½ x 3½
5 x 4½ x 3
5 x 4½ x 2½
5 x 4½ x 2
5 x 3 x 5
5 x 3 x 4½
5 x 3 x 4
5 x 3 x 3½
5 x 3 x 3
5 x 3 x 2½
5 x 3 x 2
5 x 2½ x 5
5 x 2½ x 4½
5 x 2 x 5
5 x 2 x 4½
5 x 2 x 4
5 x 2 x 3½
5 x 2 x 3
5 x 2 x 2½
5 x 2 x 2
5 x 1½ x 5
5 x 1¼ x 5
5 x 1 x 5
4½ x 4½ x 4½
4½ x 4½ x 4
4½ x 4½ x 3½
4½ x 4½ x 3
4½ x 4½ x 2½
4½ x 4½ x 2
4½ x 4½ x 1½
4½ x 4½ x 1¼
4½ x 4½ x 1
6 x 6 x 6
6 x 6 x 5
6 x 6 x 4½
6 x 6 x 4
6 x 6 x 3½
6 x 6 x 3
6 x 6 x 2½
6 x 6 x 2
6 x 6 x 1½
6 x 6 x 1¼
6 x 6 x 1
6 x 5 x 6
6 x 5 x 5
6 x 5 x 4½
6 x 5 x 4
6 x 5 x 3½
6 x 5 x 3
6 x 5 x 2½

Size.
6 x 4½ x 6
6 x 4½ x 4½
6 x 4½ x 3
6 x 3 x 6
6 x 2½ x 6
6 x 2 x 6
5 x 5 x 6
4½ x 4½ x 6
7 x 7 x 7
7 x 7 x 6
7 x 7 x 5
7 x 7 x 4
7 x 7 x 3½
7 x 7 x 3
7 x 7 x 2½
7 x 7 x 2
8 x 8 x 8
8 x 8 x 7
8 x 8 x 6
8 x 8 x 5
8 x 8 x 4
8 x 8 x 3½
8 x 8 x 3
8 x 8 x 2½
8 x 8 x 2
8 x 6 x 8
8 x 6 x 6
8 x 4 x 8
6 x 6 x 8
9 x 9 x 9
10 x 10 x 10
10 x 10 x 8
10 x 10 x 6
10 x 10 x 5
10 x 10 x 4
10 x 10 x 3
10 x 10 x 2
10 x 8 x 8
8 x 8 x 10
12 x 12 x 12
12 x 12 x 10
12 x 12 x 8
12 x 12 x 6
12 x 12 x 5
12 x 12 x 4

CROSSES.

Size.
3 x 2½ x 2 x 2
3 x 2½ x 1½ x 1½
3½ x 3½ x 3½ x 3½
3½ x 3½ x 3 x 3
3½ x 3½ x 2½ x 2½
3½ x 3½ x 2 x 2
3½ x 3½ x 1½ x 1½
3½ x 3 x 2 x 2
3½ x 3 x 1½ x 1½
4 x 4 x 4 x 4
4 x 4 x 3½ x 3½
4 x 4 x 3 x 3
4 x 4 x 2½ x 2½
4 x 4 x 2 x 2
4 x 4 x 1½ x 1½
4 x 4 x 1¼ x 1¼
4 x 4 x 1 x 1
5 x 5 x 5 x 5

Size.
5 x 5 x 4 x 4
5 x 5 x 3 x 3
5 x 5 x 2½ x 2½
5 x 5 x 2 x 2
6 x 6 x 6 x 6
6 x 6 x 5 x 5
6 x 6 x 4½ x 4½
6 x 6 x 3 x 3
6 x 6 x 2½ x 2½
6 x 6 x 2 x 2
7 x 7 x 7 x 7
8 x 8 x 8 x 8
8 x 8 x 6 x 6
8 x 8 x 4 x 4
9 x 9 x 9 x 9
10 x 10 x 10 x 10
12 x 12 x 12 x 12

REDUCING COUPLINGS.

Size	Size	Size	Size
4½ x 4	5 x 2	6 x 2	8 x 4
5 x 4½	6 x 5	7 x 6	10 x 8
5 x 4	6 x 4	8 x 7	10 x 6
5 x 3½	6 x 3½	8 x 6	12 x 10
5 x 3	6 x 3		
5 x 2½	6 x 2½		

Y BENDS.

Size.....½ to 12 in.

CAPS.

Size.....4 to 12 in.

PLUGS.

Size.....⅛ to 12 in.

LOCK NUTS.

Size.....2½ to 12 in

BUSHINGS.

Reducing one size only, are malleable up to 2½ inches, inclusive.

Size	Size	Size	Size
¼ x ⅛	2 x ¼	4 x 1	7 x 2
⅜ x ⅛	2 x ⅜	4 x 1¼	7 x 2½
⅜ x ¼	2 x ½	4 x 1½	7 x 3
½ x ¼	2 x ¾	4 x 2	7 x 3½
½ x ⅜	2 x 1	4 x 2½	7 x 4
¾ x ¼	2 x 1¼	4 x 3	7 x 4½
¾ x ⅜	2 x 1½	4 x 3½	7 x 5
¾ x ½	2½ x ½	4½ x 2	7 x 6
1 x ¼	2½ x ¾	4½ x 2½	8 x 2
1 x ⅜	2½ x 1	4½ x 3	8 x 2½
1 x ½	2½ x 1¼	4½ x 3½	8 x 3
1 x ¾	2½ x 1½	4½ x 4	8 x 4
1¼ x ¼	2½ x 2	5 x 2	8 x 5
1¼ x ⅜	3 x ½	5 x 2½	8 x 6
1¼ x ½	3 x ¾	5 x 3	8 x 7
1¼ x ¾	3 x 1	5 x 3½	9 x 6
1¼ x 1	3 x 1¼	5 x 4	9 x 7
1½ x ¼	3 x 1½	5 x 4½	9 x 8
1½ x ⅜	3 x 2	6 x 1½	10 x 4
1½ x ½	3 x 2½	6 x 2	10 x 5
1½ x ¾	3½ x 1	6 x 2½	10 x 6
1½ x 1	3½ x 1¼	6 x 3	10 x 7
1½ x 1¼	3½ x 1½	6 x 3½	10 x 8
	3½ x 2	6 x 4	10 x 9
	3½ x 2½	6 x 4½	12 x 6
	3½ x 3	6 x 5	12 x 8
			12 x 10

CAST IRON FITTINGS
FLANGED

STANDARD– Steam Working Pressure up to 125 pounds.

ELBOW

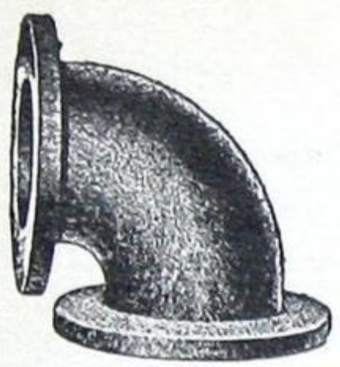


Fig. G431

45° ELBOW



Fig. G432

TEE

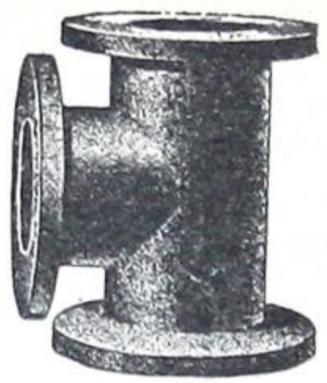


Fig. G433

TEE Reducing

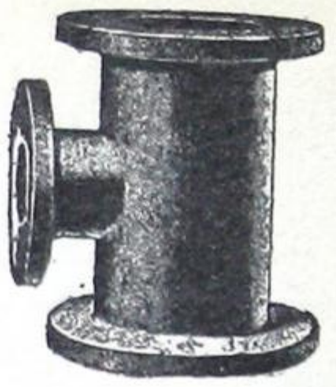


Fig. G434

TEE Reducing



Fig. G435

TEE Reducing



Fig. G436

Y BRANCH



Fig. G437

CROSS

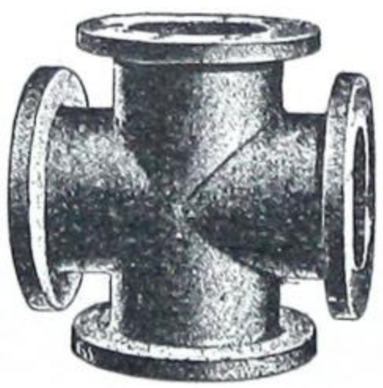


Fig. G438

TEE Single Sweep

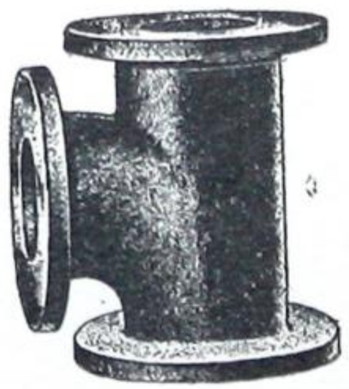


Fig. G439

TEE Double Sweep



Fig. G440

FLANGE



Fig. G441

SOLID FLANGE



Fig. G442

BASE TEE Flanged

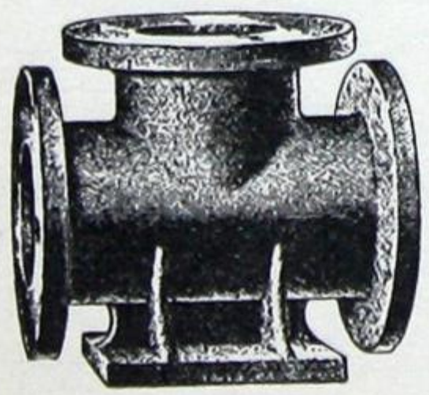


Fig. G443

BASE ELBOW Flanged



Fig. G444

BASE ELBOW Screwed



Fig. G445

Base Fittings made to order only.

Pipe Size Inches	Flange Dia. Inches	Bolt Circle Diameter Inches	Bolt		
			No.	Diam.	Length
2	6	$4\frac{3}{4}$	4	$\frac{5}{8}$	2
$2\frac{1}{2}$	7	$5\frac{1}{2}$	4	$\frac{5}{8}$	$2\frac{1}{4}$
3	$7\frac{1}{2}$	6	4	$\frac{5}{8}$	$2\frac{1}{2}$
$3\frac{1}{2}$	$8\frac{1}{2}$	7	4	$\frac{5}{8}$	$2\frac{1}{2}$
4	9	$7\frac{1}{2}$	8	$\frac{5}{8}$	$2\frac{3}{4}$
$4\frac{1}{2}$	$9\frac{1}{4}$	$7\frac{3}{4}$	8	$\frac{3}{4}$	3
5	10	$8\frac{1}{2}$	8	$\frac{3}{4}$	3
6	11	$9\frac{1}{2}$	8	$\frac{3}{4}$	3
7	$12\frac{1}{2}$	$10\frac{3}{4}$	8	$\frac{3}{4}$	3
8	$13\frac{1}{2}$	$11\frac{3}{4}$	8	$\frac{3}{4}$	$3\frac{1}{4}$
9	15	$13\frac{1}{4}$	12	$\frac{3}{4}$	$3\frac{1}{4}$
10	16	$14\frac{1}{4}$	12	$\frac{7}{8}$	$3\frac{1}{2}$
12	19	17	12	$\frac{7}{8}$	$3\frac{3}{4}$
14	21	$18\frac{3}{4}$	12	1	$4\frac{1}{4}$

CAST IRON FITTINGS—Flanged—Standard—125 Pounds Working Pressure

Size, Inches	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Elbows, Faced only.....each.	3.00	3.15	3.45	4.05	4.50	5.50	6.25	7.60	10.50	12.00	17.00	19.00	28.00	41.50
" Faced and Drilled.....	3.60	3.75	4.15	4.90	5.50	6.50	7.25	8.90	12.00	13.60	19.25	21.70	31.00	45.25
" Reducing, Faced only..... "	.....	.....	6.90	8.10	9.00	11.00	12.50	15.25	21.00	24.00	34.00	38.00	56.00	70.00
" " " and Drilled "	.....	.....	7.60	8.95	10.00	12.00	13.50	16.55	22.50	25.60	36.25	40.70	59.00	73.75
" Long Radius Faced only.... "	5.00	5.25	5.75	6.75	7.50	9.25	10.50	12.65	17.50	20.00	28.50	31.50	46.50	69.00
" " " " & Drilled.. "	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60	19.75	22.40	31.85	35.50	51.00	74.50
" 45 degree, Faced only..... "	3.30	3.50	3.80	4.50	5.00	6 00	6.90	8.35	11.00	12.60	17.75	20.00	29.50	41.50
" " Faced and Drilled... "	3.90	4.10	4.50	5.35	6.00	7.00	7.90	9.65	12.50	14.20	20.00	22.70	32.50	45.25
Tees, Faced only..... "	4.35	4.55	5.00	5.85	6.50	8.00	9.10	11.00	15.25	17.40	24.65	27.50	40.50	60.00
" " and Drilled..... "	5.25	5.45	6.10	7.10	8.00	9.50	10.60	12.95	17.50	19.80	28.00	31.50	45.00	65.50
" Reducing, Faced only..... "	5.00	5.25	5.75	6.75	7.50	9.25	10.50	12.65	17.50	20.00	28.50	31.50	46.50	69.00
" " " and Drilled "	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60	19.75	22.40	31.85	35.50	51.00	74.50
Laterals, Faced only..... "	6.75	6.95	7.65	9.00	10.00	12.00	13.75	16.75	23.00	26.50	37.50	42.00	61.50	91.00
" " and Drilled..... "	7.95	8.15	9.05	10.70	12.00	14.00	15.75	19.25	26.00	29.75	42.00	47.50	67.50	98.50
" Reducing, Faced only... "	7.75	8.00	8.75	10.35	11.50	13.75	15.75	19.25	26.50	30.50	43.00	48.00	71.00	105.00
" " " and Drilled "	8.95	9.20	10.15	12.05	13.50	15.75	17.75	21.75	29.50	33.75	47.50	53.50	77.00	112.50
Crosses, Faced only..... "	6.75	6.95	7.65	9.00	10.00	12.00	13.75	16.75	23.00	26.50	37.50	42.00	61.50	91.00
" " and Drilled..... "	7.95	8.15	9.05	10.70	12.00	14.00	15.75	19.25	26.00	29.75	42.00	47.50	67.50	98.50
" Reducing, Faced only..... "	7.75	8.00	8.75	10.35	11.50	13.75	15.75	19.25	26.50	30 50	43.00	48.00	71.00	105.00
" " Faced and Drilled.. "	8.95	9.20	10.15	12.05	13.50	15.75	17.75	21.75	29.50	33.75	47.50	53.50	77.00	112.50
Tees, Single Sweep, Faced only.... "	5.00	5.25	5.75	6.75	7.50	9.25	10.50	12.65	17.50	20.00	28.50	31.50	46.50	69.00
" " " " and Drilled "	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60	19.75	22.40	31.85	35.50	51.00	74.50
" " " " Reducing, Faced.. "	5.75	6.00	6.60	7.75	8.65	10.60	12.00	14.50	20.00	23.00	32.75	36.00	53.50	79.00
" " " " Faced & Drilled "	6.65	6.90	7.70	9.00	10.15	12.10	13.50	16.45	22.25	25.40	36.10	40.00	58.00	84.50
" Double Sweep, Faced only.... "	5.00	5.25	5.75	6.75	7.50	9.25	10.50	12.65	17.50	20.00	28.50	31.50	46.50	69.00
" " " " " & Drilled "	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60	19.75	22.40	31.85	35.50	51.00	74.50
" " " Reducing, Faced only "	5.75	6.00	6.60	7.75	8.65	10.60	12.00	14.50	20.00	23.00	32.75	36.00	53.50	79.00
" " " " F. and D... "	6.65	6.90	7.70	9.00	10.15	12.10	13.50	16.45	22.25	25.40	36.10	40.00	58.00	84.50
Reducers, Faced only..... "	.....	.....	6.90	8.10	9.00	11.00	12.50	15.25	21.00	24.00	34.00	38.00	56.00	70.00
" " and Drilled..... "	.....	.....	7.60	8.95	10.00	12.00	13.50	16.55	22.50	25.60	36.25	40.70	59.00	73.75
Standard Flanges, Faced only..... "	.75	.85	.95	1.20	1.35	1.45	1.60	2.00	2.65	3.10	3.85	4.50	6.50	9.00
" " " and Drilled "	1.00	1.10	1.25	1.55	1.80	1.90	2.05	2.50	3.25	3.80	4.65	5.50	7.65	10.35
Outside Diameter of Reducing and blind flanges, inches.....	6	7	7½	8½	9	9¼	10	11	12½	13½	15	16	19	21
Standard Reducing Flanges, Faced only	1.30	1.45	1.55	2.00	2.20	2.40	2.65	3.30	4.40	5.10	6.35	7.45	10.75	15.00
" " " " " & Drilled	1.55	1.70	1.85	2.35	2.65	2.85	3.10	3.80	5.00	5.80	7.15	8.45	11.90	16.35
" Blind Flanges Faced only.....	1.15	1.30	1.40	1.80	2.00	2.20	2.40	3.00	4.00	4.60	5.75	6.75	9.75	13.50
" " " " and Drilled	1.40	1.55	1.70	2.15	2.45	2.65	2.85	3.50	4.60	5.30	6.55	7.75	10.90	14.85

All reducing flanges of same outside diameter take same prices.

CAST IRON FITTINGS.

Long Turn.

ELBOW



Fig. G446.

ELBOW
Double Branch

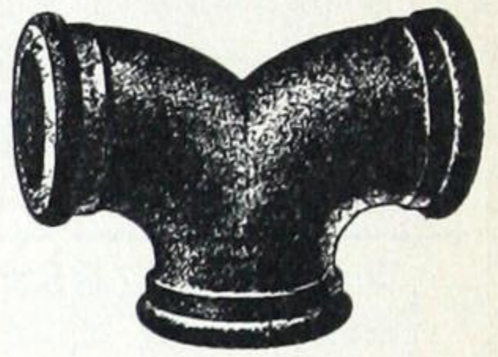


Fig. G447.

TEE
Double Sweep



Fig. G449.

TEE
Single Sweep



Fig. G448.

CROSS



Fig. G450.

Size—Inches.....	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	9	9	10	12
Elbows, ...	.32	.40	.55	.80	1.20	2.25	3.25	3.50	5.50	6.50	8.75	13.00	17.00	25.50	30.00	40.00
" Red.....	.48	.60	.83	1.20	1.80	3.38	4.88	5.25	8.25	9.75	13.13	19.50	25.50	38.25	45.00	60.00
" Dble Br...	.64	.80	1.10	1.60	2.40	4.50	6.50	7.00	11.00	13.00	17.50	26.00	34.00	51.00	60.00	80.00
" " Red	.96	1.20	1.65	2.40	3.60	6.75	9.75	10.50	16.50	19.50	26.25	39.00	51.00	76.50	90.00	120.00
Tees Single Sweep..	.48	.60	.82	1.20	1.80	3.40	4.90	5.25	8.25	9.75	13.25	19.50	25.50	38.00	45.00	60.00
" " Red....	.72	.90	1.23	1.80	2.70	5.10	7.35	7.88	12.38	14.63	19.88	29.25	38.25	57.00	67.50	90.00
" Dble Sweep.....	.64	.80	1.10	1.60	2.40	4.50	6.50	7.00	11.00	13.00	17.50	26.00	34.00	51.00	60.00	80.00
" " " Red...	.96	1.20	1.65	2.40	3.60	6.75	9.75	10.50	16.50	19.50	26.25	39.00	51.00	76.50	90.00	120.00
Crosses.....	.85	1.10	1.50	2.15	3.20	6.00	8.75	9.50	.....	17.50	24.00	35.00	45.00	68.00	80.00	107.00
" Red.....	....	1.65	2.25	3.23	4.80	9.00	13.13	14.25	.....	26.25	36.00	52.50	67.50	102.00	120.00	160.50

Galvanized Fittings Double List of Black.

BRANCH TEES.

END OUTLET



Fig. G451

BACK OUTLET



Fig. G452

SIDE OUTLET



Fig. G453

Number of Branches	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1″ Branches —1¼″ inside diam.	.90	1.05	1.15	1.35	1.60	1.90	2.20	2.65	.....	.....	.....	.....	.....	.....	.....
1″ " —2½ " "	1.15	1.35	1.60	1.85	2.10	2.45	2.75	3.40	4.00	4.80	5.10	6.00	7.25	7.75	8.25
1¼″ " —2½″ " "	1.50	1.90	2.40	2.90	3.30	3.90	4.50	5.25	5.85	6.25	6.50	7.00	7.75	8.50	9.50
1¼″ " —3″ " "	1.95	2.40	2.85	3.55	3.95	4.20	4.95	6.15	6.85	7.25	7.65	8.25	9.00	9.75	10.75
1¼″ " —3½″ " "	....	....	4.30	4.90	5.40	6.25	7.10	8.25	9.20	10.00	10.85	11.65	....	....	.....
1½″ " —2½″ " "	2.10	2.70	3.35	4.00	4.65	5.25	5.85	6.50	7.60	8.00	8.50	9.50	....	....	.....
1½″ " —3″ " "	2.85	3.45	4.15	5.00	5.75	6.50	7.00	8.25	9.25	9.75	10.50	11.50	....	....	.....
1½″ " —3½″ " "	3.15	3.80	4.60	5.50	6.25	7.25	7.75	9.00	10.00	10.75	11.50	12.75	....	....	.....
2″ " —3″ " "	4.50	5.75	7.00	8.50	9.75	11.75	12.75	13.50	15.00	.....	.....	.....	....	....	.....

Bank or Side outlets are charged as an additional branch.

When more than one outlet is required, they will be charged as additional branches.

NOTE.—When ordering Branch Tees, always be particular to mention size and number of branches and how tapped, inside diameter, position and size of outlet and how tapped.

Thus—10—1″ x 6 Branch Tees tapped left; 2½″ Inside Diameter; 1¼″ Back Outlet near end, tapped right.

In cases where outlet is required in any particular position it would be well to send rough sketch with order.

SPECIAL TEES, HEADERS OR MANIFOLDS FOR DRYING KILNS MADE TO ORDER.

CLUSTER HEADERS.

REGULAR

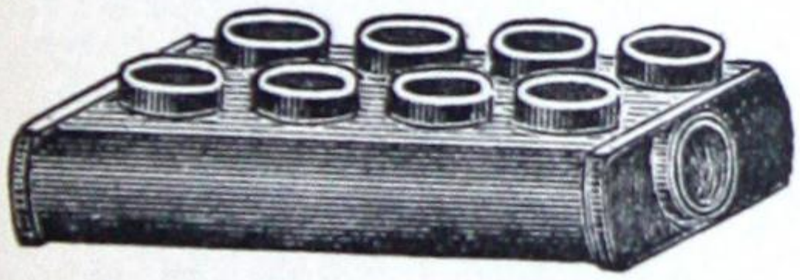


Fig. G456

WITH DIVISION

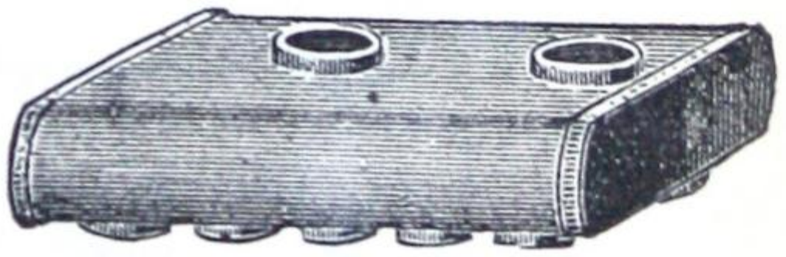


Fig. G457

With End Tapping, also supplied tapped in Back or Back Near End.

Branches	Each	Branches	Each
2 x 2	$1.00	2 x 7	$3.20
2 x 3	1.50	2 x 8	3.60
2 x 4	2.00	2 x 9	4.00
2 x 5	2.40	2 x 10	4.40
2 x 6	2.80	2 x 12	5.60

Tapped Back and Near End, also supplied tapped Back and End.

Branches	Each
2 x 6	$3.35
2 x 8	4.30
2 x 10	5.25
2 x 12	6.75

Cluster Headers are only made with 1″ branches. Dimensions—5½″ wide, 2½″ deep, and 2½″ centres both ways.

In ordering, be particular to state how tappings are required.

Tappings for Drips or Air Valves 10c. each extra.

CAST IRON FITTINGS

DOUBLE HOOK PLATES FOR CLUSTER HEADERS



Fig. G461

									Each
2 x	2	for	4	branch	header	....	$ .60	Number of Pipes	Price per Pair
2 x	3	"	6	"	"	....	.70		
2 x	4	"	8	"	"	....	.80	4	$ .60
2 x	5	"	10	"	"	....	.90	6	.75
2 x	6	"	12	"	"	....	1.00	8	1.30
2 x	7	"	14	"	"	....	1.10	10	1.60
2 x	8	"	16	"	"	....	1.20	12	2.05
2 x	9	"	18	"	"	....	1.30	14	3.00
2 x	10	"	20	"	"	....	1.40	16	3.75
2 x	12	"	24	"	"	....	1.50		

BOX COIL STAYS
High or Low Base

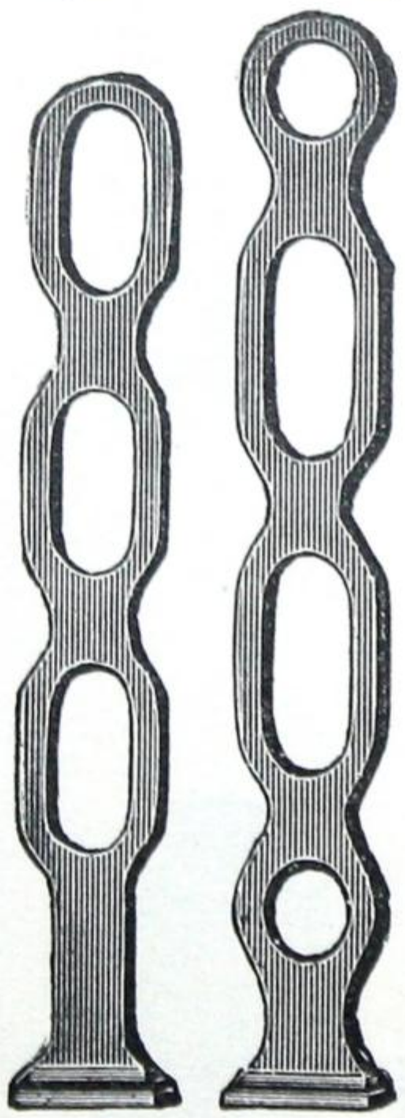
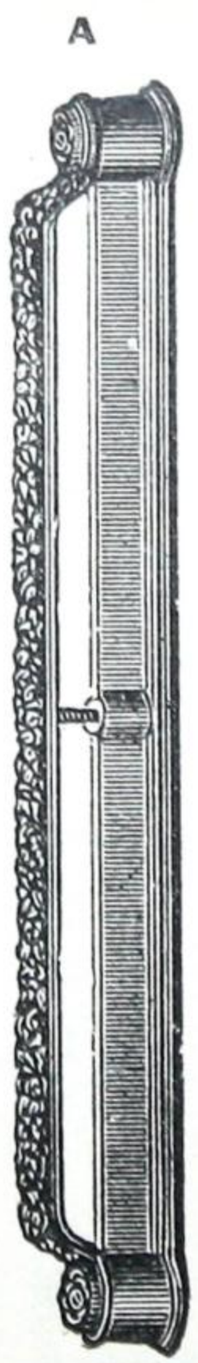


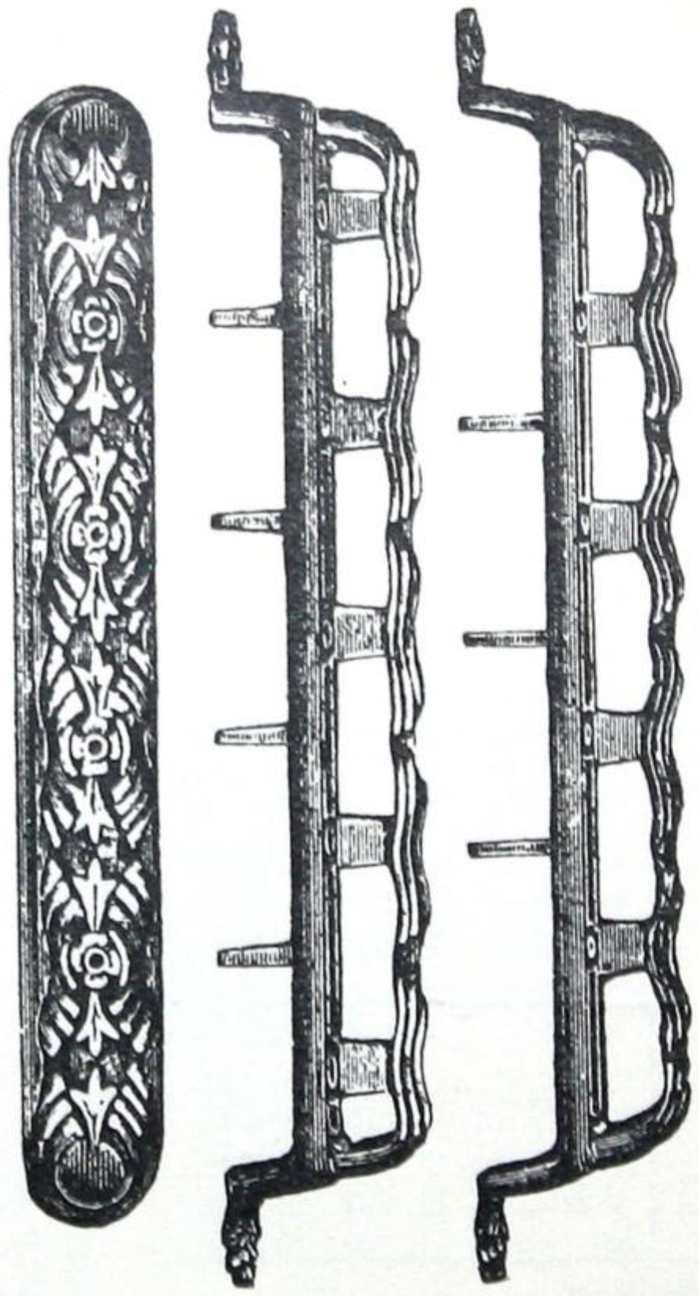
Fig. G462

WALL COIL STAYS.



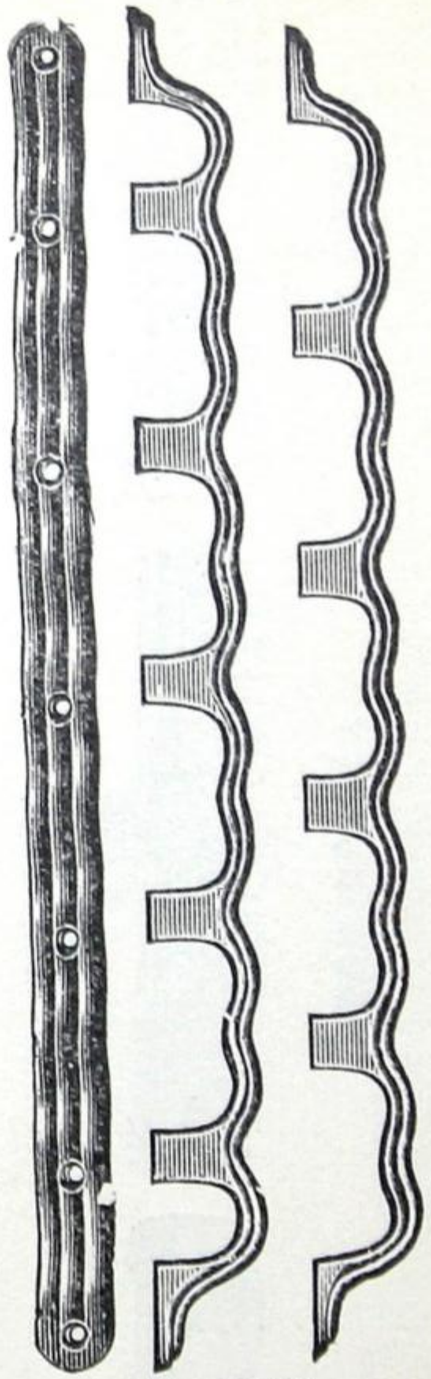
A

Fig. G463



B

Fig. G464



D

Fig. G465

Number of Pipes.	4	6	8	10	12	14	16	18
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Per set, 4 pieces, "A"	1.20	1.40	1.60	1.84	2.00	2.32	2.60	3.60
" " "B", single	1.36	1.60	1.92	2.24	2.48	2.88	3.20	3.60
" " "B", double	2.40	2.80	3.20	3.68	4.00	4.64	5.20	7.20
Per pair, "D"	.60	.70	.80	.92	1.00	1.16	1.30	2.00

All above made for 1" pipe only.

CAST IRON FITTINGS.

HOOK PLATE



Fig. G466

EXPANSION PLATE

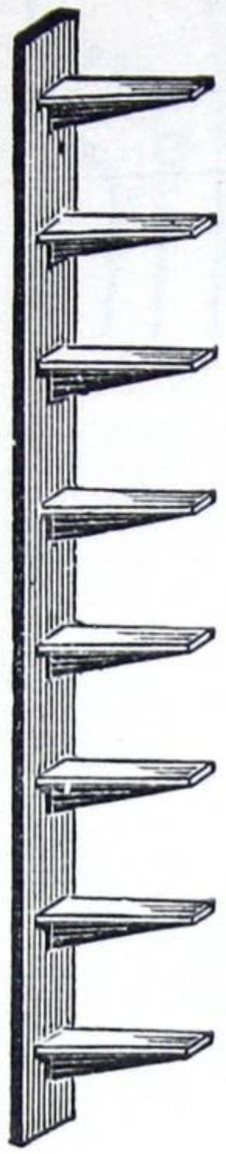


Fig. G467

RING PLATE



Fig. G468

HALF RING PLATE



Fig. G469

ROSETTE PLATE



Fig. G470

EXPANSION PIPE HANGER

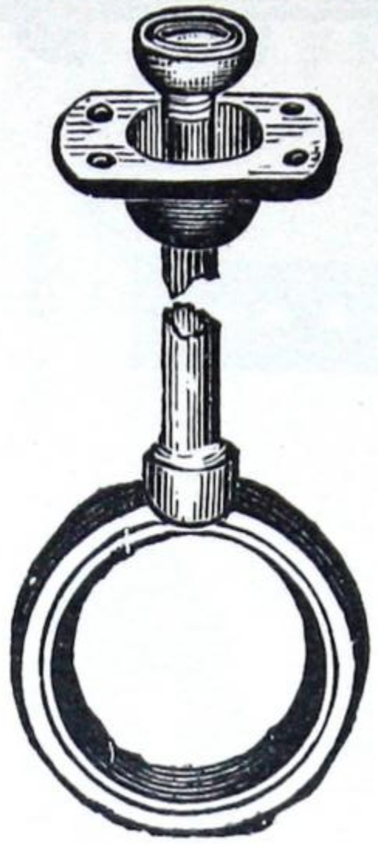


Fig. G476.

PIPE ROLLER



Fig. G477

Size Pipe.....	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Expansion Hangers, 3 pieces...	.17	.18	.19	.25	.29	.36	.44	.55	.63	.90	1.12	1.35
Rollers, each...	.08	.08	.09	.10	.16	.18	.21	.26	.32	.40	.52	.70

Number of Pipes.	1	2	3	4	5	6	7	8	9	10	11	12	14
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Hook Plates, 1".....	.09	.18	.23	.26	.32	.38	.48	.59	.65	.70	.85	1.00	.....
" 1¼".....	.10	.21	.27	.32	.41	.52	.68	.80	.90	1.20	1.36	1.40	.....
" 1½".....	.15	.28	.43	.58	.72	.88	1.10	1.25	1.40	1.55	1.65	1.90	.....
" 2".....	.22	.43	.65	.90	1.15	1.35	.....	.....	.....	.....	.....	.....	.....
Expansion Plates, 1".....	.15	.25	.35	.50	.60	.70	.80	.95	1.10	1.35	1.55	1.70	.....
" 1¼".....	.17	.27	.40	.60	.70	.80	.90	1.15	1.30	1.50	1.70	2.00	.....
Ring Plates, 1".....	.16	.28	.41	.50	.62	.72	.96	1.00	1.20	1.30	.....	2.00	.....
" 1¼".....	.21	.35	.50	.62	.75	1.10	1.25	1.40	1.60	1.80	.....	2.75	.....
Half Ring Plates, 1".....	.....	.25	.35	.45	.55	.65	.75	.85	.....	.....	.....	.....	.....
Rosette Plates, 1".....	.....	.40	.....	.80	.....	.90	.....	1.20	.....	1.40	.....	1.80	2.25

STEEL HOOK PLATES AND HANGERS.

HINGE PIPE RING



Fig. G481

BEAM CLAMP

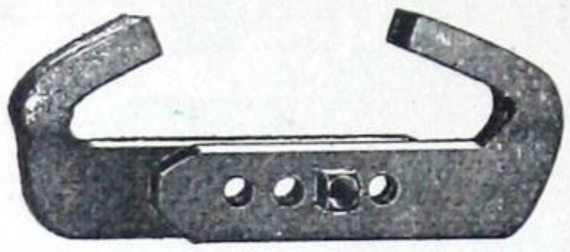


Fig. G482

LAG SCREW



Fig. G483

EXTENSION BAR



Fig. G485

HOOK PLATE



Fig. G486

NOTE. No. 1 is for pipe ½″ to 1½″ inclusive.
No. 2 is for pipe 2″ to 3″ inclusive.
No. 3 is for pipe 3½″ to 6″ inclusive.
No. 4 is for pipe 7″ to 8″ inclusive.
No. 5 is for pipe 9″ to 12″ inclusive.

Number	1	2	3	4	5
	$ c.	$ c.	$ c.	$ c.	$ c.
Beam Clamps, each	.25	.30	.35	.50	.70
Lag Screws, each	.10	.12	.14	.20	.25
Extension Bar, per foot	.08	.09	.10	.20	.28

No. 0 and 00 Extension Bar, 8c. per ft.

Size, Iron Pipe	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	*10	11	12
Hinge Rings, each	.17	.17	.19	.21	.23	.25	.27	29	.33	.35	.37	.39	.43	.68	.93	1.15	1.45	1.65	1.95
Hook Plates, length	...	....	2.50	3.25	3.75	4.25	...	...	....	...	....	....	...	....	...	....	....	....	
No. of Hooks per length	...	....	30	30	25	20	...	...	....	..	....	....	...	....	...	....	....	....	

TINNED PIPE STRAPS

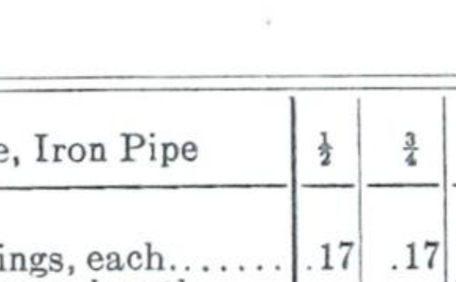


Fig. G489

¼″ to 2″
Per lb. $ 30

IRON PIPE HOOKS

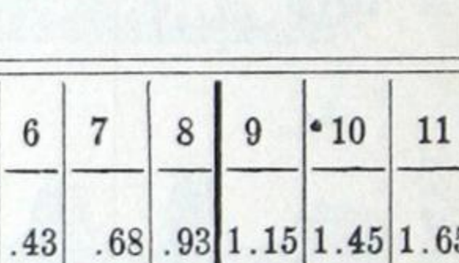


Fig. G490

Size	¼	⅜	½	¾	1	1¼	1½	2
Per 100	$.90	$1.10	$1.30	$1.80	$1.95	$2.25	$2.55	$3.00

SOLID RING PIPE HANGERS.

LONG



Fig. G491

SHORT



Fig. G492

Size	⅜	½	¾	1	1¼	1½	2
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Long, Plain, each.....	.06½	.06½	.08	.10	.12	.15	.24
Long, Galvanized, each..	.08	.08	.10	.12	.14	.18	.27
Short, Plain, each.....	.05	.05	.06	.08	.10	.14	.22
Short, Galvanized, each..	.06½	.06½	.07	.09	.12	.16	.25

CAST IRON FLOOR AND CEILING PLATES.

FLOOR PLATE No. 1



Fig. G496

FLOOR PLATE No. 2



Fig. G497

CEILING PLATE

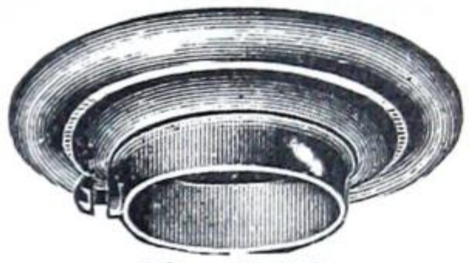


Fig. G498

Size, Inches	¾	1	1¼	1½	2	2½	3	3½	4	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Floor Plates, No. 1, each.....	.06	.08	.11	.14	.16	.24	.30	.35	.42	.60	.75
Floor Plates, No. 2, each.....	.06	.08	.11	.14	.16	.24	.30	.35	.42	.60	.75
Ceiling Plates, each.....	.13	.16	.18	.23	.27	.36	.50	.55	.68	.95	1.25

NICKEL PLATED FLOOR AND CEILING PLATES.

FLOOR PLATE One Piece



Fig. G501

BEATON'S PERFECTION SPRING PLATE



Fig. G502

Size, Inches	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
N.P. Floor Plate, one piece, each..	.16	.16	.16	.16	.22	.22	.30	.37	.45	.55	.65	.75	.85	.95
N.P. Beaton's Perf. Spring Plate..	.26	.27	.28	.32	.35	.38	.45	.65	.80	1.00	1.25	1.50	1.75	2.00

NOTE.—Beaton's Perfection Spring Plate and No. 40 Sectional can be used for either ceiling or floor.

MALLEABLE IRON FITTINGS.

ELBOW Plain



Fig. G506

ELBOW Beaded



Fig. G507

45° ELBOW



Fig. G508

STREET ELBOW



Fig. G509a

45° STREET ELBOW



Fig. G509b

ELBOW Side Outlet

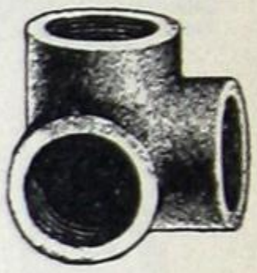


Fig. G510

DROP ELBOW Female



Fig. G511

DROP ELBOW Male & Female



Fig. G512

LONG DROP ELBOW Male & Female



Fig. G513

TEE Plain

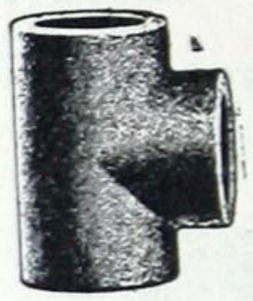


Fig. G514

TEE Beaded



Fig. G515a

SERVICE TEE.



Fig. G515b

TEE Side Outlet



Fig. G516

DROP TEE Female



Fig. G517

DROP TEE Male and Female

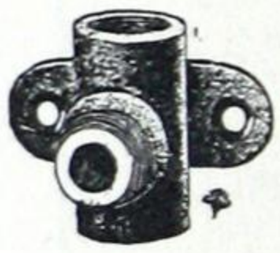


Fig. G518

CROSS Plain



Fig. G519

CROSS Beaded

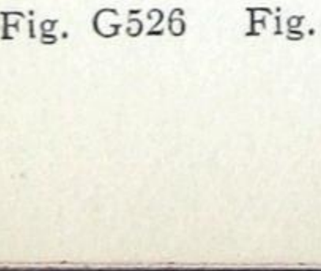


Fig. G520

Y BEND

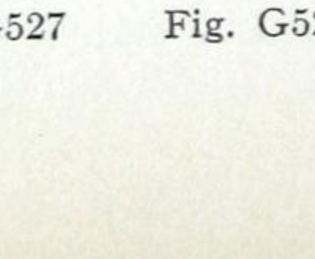


Fig. 521

RETURN BEND Close

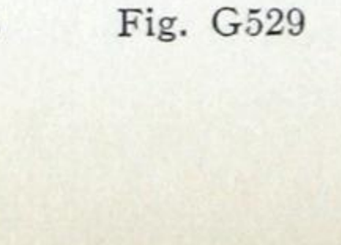


Fig. G522

RETURN BEND Open

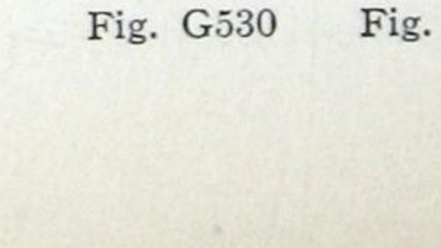


Fig. G523

Coupling Right & Left

Fig. G524

Coupling Right

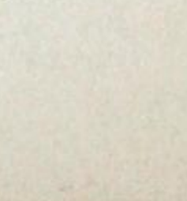


Fig. G525

Reducing Coupling

Fig. G526

Cap

Fig. G527

Locknut

Fig. G528

Waste Nut

Fig. G529

Chandelier Hook

Fig. G530

Extension Piece

Fig. G531

Flange

Fig. G532

MALLEABLE IRON FITTINGS.

Classification.

CLASS.....	A	B	*C
List Price per lb., Black.....	$ .40	$ .20	$ .12
" " Galvanized.....	.50	.28	.19
Elbows.....	1/8", 1/4" x 1/8", 3/8" x 1/8", 1/2" x 1/8"	1/4" to 1/2"	3/4" and larger
" Right and Left.....	1/4" and 3/8"	1/2" and 1"	1 1/4" and larger
" 45°.....	.....	1/4" to 2"	2 1/2" and larger
" Street.....	1/8"	1/4" to 1" x 3/4"	1" and larger
" " 45°.....	3/8"	1/2" and larger	.....
" Side Outlet.....	.....	All sizes	.....
" Drop.....	.....	All sizes	.....
Tees.....	1/8", 1/8" x 1/4", 1/4" x 1/8", 3/8" x 1/8"	1/4" to 1/2"	3/4" and larger
" Service.....	.....	3/8" to 1" Reducing	1" and larger
" Side Outlet.....	.....	All sizes	.....
" Drop.....	.....	All sizes	.....
Crosses.—Straight.....	.....	1/4" to 1"	1 1/4" and larger
" Reducing.....	.....	1" and smaller	1 1/4" and larger
Y-Bends.....	.....	1/2" and larger	.....
Return Bends.....	.....	3/8" to 1"	1 1/4" and larger
" R. and L.....	3/8" and 1/2"	3/4" and larger	.....
Couplings—Right Hand.....	1/8"	1/4" to 3/4"	1" and larger
" Right and Left.....	.....	1/4" to 3/4"	1" and larger
" Reducing.....	1/4" x 1/8", 3/8" x 1/8" and 1/2" x 1/8"	3/8" x 1/4" to 1" x 3/4"	1 1/4" x 3/4" and larger
Caps.....	1/8"	1/4" to 1"	1 1/4" and larger
Lock-Nuts.....	1/8"	1/4" to 1 1/4"	1 1/2" and larger
Waste Nuts.....	.....	All sizes	.....
Chandelier Hooks.....	.....	All sizes	.....
Extension Pieces.....	.....	All sizes	.....
Flanges.....	.....	1/4" to 1/2"	3/4" and larger

* Fittings in Class "C" having any opening smaller than 1/4" to be classed as "B".

MALLEABLE IRON FITTINGS
List of Sizes.

ELBOWS

Size	Lbs. per 100
⅛	5½ P
¼ x ⅛	9 P
⅜ x ⅛	14¾ P
⅜ x ¼	10
⅜ x ¼	16
½ x ⅜	17½
½ x ⅛	26 P
½ x ¼	23½
½ x ⅜	22¼
¾ x ½	26
¾ x ¼	45 P
¾ x ⅜	38
¾ x ½	41½
1 x ¾	52¾ P
1 x 1	60
1¼ x ½	60½
1¼ x ¾	65¼
1¼ x 1	95 B
1½ x ¾	91 B
1½ x 1	98
1½ x 1¼	97
2 x ¾	130 B
2 x 1	106 B
2 x 1¼	144
2 x 1½	128
2½ x ½	195
2½ x ¾	196
2½ x 1	188 B
2½ x 1¼	196 B
2½ x 1½	178
2½ x 2	214
3 x 1½	280
3 x 2	380
3 x 2½	385
3½ x 3	500
4 x 2	460
4 x 3	536
4 x 3½	592
5	806
6	830

R. & L. ELBOWS.

¼, ⅜, ½, ¾, 1, 1¼, 1½, 2 B

ELBOWS 45°

¼	10 B
⅜	15 B
½	24½
¾	33½
1	54
1¼	88
1½	119
2	175

ELBOWS 45°—Cont.

Size	Lbs. per 100
2½	309
3	593
3½	726
4	900
4½, 5 and 6	.....

STREET ELBOWS

¼	13 B
⅜	16¼ B
½	27¾ B
¾ x ½	45 B
¾	49½ B
1 x ¾	62 B
1	65 B
1¼ x 1	88 B
1¼	102 B
1½ x 1¼	146 B
1½	159 B
2 x 1½	225 B
2	252 B
2½, 3 and 4	.....

45° STREET ELBOWS
⅜" to 4"

DROP ELBOWS
Female

¼ x ¼	15½ P
¼ x ⅜	20 P
¼ x ½	18 P
¼ x ¾	28¾ P
¼ x 1	26½ P
⅜ x ½	41½ P
⅜ x ¾	36 P
⅜ x 1	52½ P

DROP ELBOWS
Male & Female

F M	
¼ x ⅜	15½ P
¼ x ½	19 P
½ x ⅜	32 P

DROP ELBOWS. M. & F.
With Drop 2½" Long

F M	
¼ x ⅜	22
⅜ x ⅜	25¾

ELBOWS
With Side Outlet

Size	Lbs. per 100
⅜ x ⅜ x ¼	14 P
⅜ x ⅜ x	16 P
½ x ½ x	23 P
½ x ½ x ½	28 P
½ x ½ x ¾	29 P
¾ x ¾ x ½	31 P
¾ x ¾ x ¾	32 P
1 x 1 x ¾	48 P
1 x 1 x ⅜	54 P
1 x 1 x ½	50 P
1 x 1 x ¾	58 P
1 x 1 x 1	108 P
1¼ x 1¼ x 1	118 P
1¼ x 1½ x 1¼	151 P
1½ x 1½ x 1½	250
2 x 2 x 2	

TEES
Side Outlet

⅜	22
½	28 P
¾	40 P
1	99 P
1¼	130 P
1½	153 P
2	.....

TEES

⅛	9 P
¼ x ⅛	9½ P
⅛ x ⅛	10½ P
⅛ x ¼	9¾ P
¼ x ¼	12¼ P
¼ x ⅜	12
¼ x ½	17
⅜ x ⅜	18½ P
⅜ x ½	18 P
⅜ x ¾	17
½ x ½	18½ P
½ x ¾	23¼ P
½ x 1	38
¾ x ¾	24½ P
¾ x 1	28½ P
1 x 1	24¾
1 x 1¼	23
1¼ x 1¼	27 P
1¼ x 1½	40 P
1½ x 1½	23
⅜ x ⅜ x ¼	25½
½ x ½ x ⅜	29⅛
½ x ½ x ¾	41
¾ x ¾ x ½	71
¾ x ¾ x ¾	120
¾ x ¾ x 1	48
1 x 1 x ¾	45 P
1 x 1 x 1	43 P
1 x 1 x 1¼	48 P
1¼ x 1¼ x ¾	66 P
1¼ x 1¼ x 1	38 P
1½ x 1½ x ¾	42 P
1½ x 1½ x 1	44
1½ x 1½ x 1¼	50¼
2 x 2 x 1	65 P

P means Plain Pattern only. B means Beaded Pattern only. Fittings without mark are both Plain and Beaded up to 2 inches inclusive; 2½" are Beaded only; 3" and larger with Bands only. Approximate weights are for Beaded, except when made only in Plain.

MALLEABLE IRON FITTINGS.

List of Sizes.—Continued.

TEES—Cont.

Size	Lbs. per 100
¾ x ¼	44
¾ x ⅜	41
¾ x ½	42
¾	50½
¾ x 1	62
¾ x 1¼	144 B
1 x ⅜ x ½	54 P
1 x ½ x ¾	63 P
1 x ½ x 1	78½
1 x ½ x 1¼	89½
1 x ¾ x ½	56 P
1 x ¾ x ¾	63
1 x ¾ x 1	67½
1 x 1 x 1	73
1 x 1 x 1¼	108
1 x ¾ x ⅜	58½ P
1 x ¾ x ½	60
1 x ¾ x ¾	71¼
1 x ¾ x 1	72
1 x ¾ x 1¼	105 B
1 x ¼	59¼ P
1 x ⅜	62
1 x ½	64
1 x ¾	71
1	75
1 x 1¼	100
1 x 1½	112 B
1 x 2	195 B
1¼ x ⅜ x 1	114
1¼ x ⅜ x 1¼	133
1¼ x ½ x ¾	104
1¼ x ½ x 1	108 B
1¼ x ½ x 1¼	133½ B
1¼ x ¾ x ½	106
1¼ x ¾ x ¾	100 B
1¼ x ¾ x 1	116 B
1¼ x ¾ x 1¼	132 B
1¼ x 1 x ⅜	81 P
1¼ x 1 x ½	92 B
1¼ x 1 x ¾	100 B
1¼ x 1 x 1	116
1¼ x 1 x 1¼	106¼
1¼ x 1 x 1½	145 B
1¼ x ⅜	89
1¼ x ½	82
1¼ x ¾	106
1¼ x 1	107
1¼	132
1¼ x 1½	156 B
1¼ x 2	169 B
1½ x ½ x 1	131
1½ x ⅜ x 1½	167 B
1½ x ½ x 1½	164 B
1½ x ¾ x 1	115
1½ x ¾ x 1¼	140
1½ x ¾ x 1½	155 B
1½ x 1 x ¾	110
1½ x 1 x 1	125 B
1½ x 1 x 1¼	151 B
1½ x 1 x 1½	154½ B
1½ x 1¼ x ½	113½ B
1½ x 1¼ x ¾	112½ B

TEES—Cont.

Size	Lbs. per 100
1½ x 1¼ x 1	127½ B
1½ x 1¼ x 1¼	144 B
1½ x 1¼ x 1½	160
1½ x ⅜	104 B
1½ x ½	112 B
1½ x ¾	116
1½ x 1	128
1½ x 1¼	156
1½	160
1½ x 1¼ x 2	198 B
1½ x 2	180
2 x ⅜ x 2	236 B
2 x ½ x 2	226 B
2 x ¾ x 2	240 B
2 x 1 x 2	224 B
2 x 1¼ x 1¼	201½ B
2 x 1¼ x 1½	231 B
2 x 1¼ x 2	236 B
2 x 1½ x ¾	222
2 x 1¼ x 1	224 B
2 x 1½ x 1¼	209½ B
2 x 1½ x 1½	224
2 x 1½ x 2	244
2 x ⅜	154 B
2 x ½	160 B
2 x ¾	161
2 x 1	181
2 x 1¼	203
2 x 1½	220
2	268½
2 x 2½	320½
2½ x 2 x 1½	325 B
2½ x 2 x 2	320 B
2½ x 1½ x 2½	310 B
2½ x 2 x 2½	350 B
2½ x ¾	312 B
2½ x 1	315 B
2½ x 1¼	295 B
2½ x 1½	300 B
2½ x 2	348 B
2½	470 B
2 x 3	530 B
2½ x 3	539 B
3 x 2½ x 2	520
3 x 2½ x 3	630
3 x ¾	520
3 x 1	525
3 x 1¼	530
3 x 1½	532
3 x 2	610
3 x 2½	632
3	745
3½ x 2	.....
3½ x 2½	770
3½ x 3	950
3½	1003
4 x 3 x 3	980
4 x 3 x 4	1200
4 x 1	1000
4 x 1¼	1050
4 x 1½	1100
4 x 2	1110

TEES—Cont.

Size	Lbs. per 100
4 x 2½	1182½
4 x 3	1245
4 x 3½	1513
4	1465
4½	.....
5 x 2	2500
5 x 3	2550
5 x 4	2600
5	2690
6 x 2	4380
6 x 2½	4400
6 x 3	4425
6 x 4	4500
6	4600

SERVICE TEES

A	B	C	
⅜	x ⅜	x ⅜	20
½	x ½	x ½	31
¾	x ¾	x ¾	55
¾	x ½	x ¾	55
¾	x ¾	x 1	69
1	x ¾	x 1	79
1	x 1	x ¾	78
1	x 1	x 1	82
1	x 1	x 1¼	110
1¼	x ¾	x 1¼	145
1¼	x 1	x 1¼	117
1¼	x 1¼	x 1¼	145
1¼	x 1	x 1	127
1½	x ¾	x 1½	170
1½	x 1	x 1½	170
1½	x 1¼	x 1½	176
1½	x 1½	x 1½	178
2	x 1½	x 2	266
2	x 2	x 2	295
2½	x 2	x 2½	517
2½	x 2½	x 2½	517
3	x 2½	x 3	695
3	x 3	x 3	820
3	x 3	x 4	1050

DROP TEES—Female

⅜	¼ x	¼	18¼ P
⅜ x	⅜ x	¼	17¾ P
⅜ x	⅜ x	⅜	19½ P
1 x	¼ x	½	29½ P
½ x	⅜ x	¼	24 P
½ x	⅜ x	⅜	26 P
½ x	½ x	½	28 P
½ x	½ x	⅜	27¼ P
½ x	½ x	½	27 P
¾ x	½ x	¼	43 P
¾ x	½ x	⅜	49 P

P means Plain Pattern only. B means Beaded Pattern only. Fittings without mark are both Plain and Beaded up to 2 inches inclusive; 2½″ are Beaded only; 3″ and larger with Bands only. Approximate weights are for Beaded, except when made only in Plain.

MALLEABLE IRON FITTINGS.

List of Sizes.—Continued.

DROP TEES—Female —Cont.

Size	Lbs. per 100
¾ x ¾ x ¼	39 P
¾ x ¾ x ⅜	44 P
¾ x ¾ x ½	45 P
¾ x ¾ x ¾	57 P
1 x 1 x ¾	59 P
1 x 1 x 1	58 P
1 x 1 x 1¼	61 P
1 x 1 x 1½	..... P
1 x 1 x 1¼	..... P

DROP TEES—M. & F.

F.	M.	
¼ x	¼ x	17
⅜ x	¼ x	18
⅜ x	⅜ x	16½
½ x	⅜ x	31½
½ x	½ x	25¼
¾ x	½ x	43
¾ x	¾ x	51½
1 x	¾ x	58½
1 x 1	x	51¾

DROP TEES M. & F. With Drop 2½″ Long.

F.	M.	
⅜ x	⅜ x	25½

Y BENDS

½	60 B
¾	90 B
1	114 B
1¼	187
1¼ x 1¼ x ¾	.....
1½ x 1¼ x 1¼	.....
1½ x ¼	275
1½ x ¼ 1x 1½	.....
1½ x 1¼	.....
2 x 1¼ x 1¼	.....
2 x 1¼ x 1½	.....
2 x 1¼ x 2	.....
2 x 1½ x 1¼	.....
2 x 1½ x 1½	.....
2 x 1½ x 2	.....
2 x 2 x 1½	.....
2 x 2 x 1½	.....
2	437
2½ x 2	.....
2½	650
3	1000
3 x 2½	B
4	.....

CROSSES

Size	Lbs. per 100
¼ x ¼ x ¼	15¾ P
⅜ x ¼ x ⅜	17¾ P
⅜ x ¼ x ¼	23 P
⅜	24
½ y x ¼ x ⅜	24 P
½ x ⅜ x ½	27 P
½ x ⅜ x ⅜	28½ P
½ x ¼ x ⅜	27 P
½ x ⅜	28 P
½	31
¾ x ½ x ½	39 P
¾ x ½ x ⅜	39 P
¾ x ½ x ¾	50 P
¾ x ½ x ½	44½ P
¾ x ¼ x ⅜	50¼ P
¾ x ½	50 P
¾	52 P
1 x ½ x ⅜	64
1 x ¾ x ⅜	52 P
1 x ¾ x ½	52 P
1 x ¾ x ¾	62 P
1 x ½	64 P
1	68½
1¼ x 1 x ¾	69
1¼ x 1 x 1	72
1¼ x ⅜	92
1¼ x ½	96 B
1¼ x ¾	105 B
1¼ x 1	90 B
1¼	106 B
1½ x 1½ x 1¼	118 B
1½ x ⅜	132 B
1½ x ½	158
1½ x ¾	158 B
1½ x 1	119
1½ x 1¼	114½ B
1½	132 B
2 x ⅜	146 B
2 x ½	185 B
2 x ¾	198
2 x 1	157
2 x 1¼	180 B
2 x 1½	194 B
2	226 B
2½ x 1¼	252 B
2½ x 1½	262 B
2½ x 2	288
2½	318
3 x 1½	340
3 x 2	380 B
3 x 2½	600 B
3	520
3½	613
4	688
4 x 2	881
4 x 3	1030
4½, 5 and 6	1427
	.....
	.....

CAPS

Size	Lbs. per 100.
⅛	..... P
¼	5 P
⅜	7½ P
½	12¼ P
¾	19¼ P
1	34½ P
1¼	58 B
1½	68 B
2	100 B
2½	188 B
3	262
3½	310
4	468
4½, 5 and 6	.....

LOCK NUTS

¼	3½
⅜	5¾
½	7¼
¾	12¾
1	17¼
1¼	26¼
1½	34
2	50
2½	185
3	195
3½	270
4	495

R. H. COUPLINGS

⅛	4½ P
¼	6¼ P
⅜	10½ P
½	18 P
¾	27¼ P
1	47½ P
1¼	70 P
1½	97 P
2	148 P
2½ and 3	.....

REDUCING

¼ x ⅛	6 P
⅜ x ⅛	10½ P
⅜ x ¼	11 P
½ x ⅛	.....
½ x ¼	14½ P
½ x ⅜	15 P
¾ x ½	23 P

P means Plain Pattern only. B means Beaded Pattern only. Fittings without mark are both Plain and Beaded up to 2 inches inclusive; 2½″ are Beaded only; 3″ and larger with Bands only. Approximate weights are for Beaded, except when made only in Plain.

MALLEABLE IRON FITTINGS.

List of Sizes.—Continued.

REDUCING—Cont.

Size	Lbs. per 100
¾ x ⅜	22 P
¾ x ½	22½ P
1 x ¼	30 P
1 x ⅜	32 P
1 x ½	33½ P
1 x ¾	34¾
1¼ x ¼	44
1¼ x ⅜	50 B
1¼ x ½	42½ B
1¼ x ¾	41½ B
1¼ x 1	46½ B
1½ x ⅜	60 B
1½ x ½	58 B
1½ x ¾	62 B
1½ x 1	70 B
1½ x 1¼	68
2 x ¼	83
2 x ⅜	94
2 x ½	84½ B
2 x ¾	91 B
2 x 1	100 B
2 x 1¼	98 B
2 x 1½	105¼ B
2½ x 1	185 B
2½ x 1¼	174½ B
2½ x 1½	177 B
2½ x 2	189 B
3 x 1	256
3 x 1½	280
3 x 1½	250
3 x 2	265
3 x 2½	300
3½ x 1½	350
3½ x 2	356
3½ x 2½	362
3½ x 3	370
4 x 1¼	.....
4 x 1	425
4 x 1½	.....
4 x 2	430
4 x 2½	505
4 x 3	480
4 x 3½	495

R. & L. COUPLINGS

Size	Lbs. per 100
¼	7¼
⅜	13
½	20½
¾	29¼
1	53½
1¼	80½
1½	115
2	170
2½ and 3	.....

RETURN BENDS
Close

Size	Centres	
⅜	⅞	20
½	1⅛	35
¾	1⅜	67
1	1¾	100
1¼	2⅛	164
1½	2½	245
2	2¾	395
2½	3⅞	625
3	4½	850

RETURN BENDS
Medium

Size	Centres	
½	1¼	37 B
¾	1 9/16	55½ B
1	1⅞	92½ B
1¼	2¼	163 B
1½	2½	244 B
2	3⅛	328½ B

RETURN BENDS
Open

Size	Centres	
⅜	1¼	21½
½	1½	41½
¾	2	81¾

RETURN BENDS
Open—Cont.

1	2½	133
1¼	3	191¼
1½	3½	314½
2	4⅜	557
2½	4¾	750
3	6¼	1085
3½	6½	.....
4	7	.....

CHANDELIER HOOKS

⅜	18¼
½	27¼

WASTE NUTS

¼	5
⅜	7
½	10
¾	10¼
1	14½
1¼, 1½ and 2	.....

EXTENSION PIECES

⅜	15
½	27
¾	40

FLANGES

¼	20
⅜	30
½	41
¾	64
1	83
1¼	105
1½	140
2	173

P means Plain Pattern only. B means Beaded Pattern only. Fittings without mark are both Plain and Beaded up to 2 inches inclusive; 2½″ are Beaded only; 3″ and larger with Bands only. Approximate weights are for Beaded, except when made only in Plain.

RAILING FITTINGS.

ELBOW



Fig. G541

ELBOW
Side Outlet



Fig. G542

TEE



Fig. G543

TEE
Side Outlet



Fig. G544

CROSS



Fig. G545

CROSS
Side Outlet



Fig. G546

ACORN ORNAMENT



Fig. G547

BUSHING



Fig. G548

HINGE



Fig. G549

SQUARE FLANGE



Fig. G550

BALL FLANGE



Fig. G551

Size	Malleable ½	¾	1	1¼	1½	2	2½	3	Finished Brass ½	¾	1	1¼	1½	2
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbow	.15	.18	.20	.35	.45	.72	1.60	2.25	.40	.60	.80	1.20	1.60	2.50
" Side Outlet	.20	.23	.25	.40	.50	.80	1.75	2.50	.75	1.00	1.10	1.70	2.00	3.00
Tee	.20	.23	.25	.40	.50	.75	1 75	2.50	.60	.85	1.10	1.70	2.00	3.00
" Side Outlet	.30	.33	.35	.45	.55	.90	1.90	2.60	1.05	1.25	1.50	2 00	2.40	3.50
Cross	.30	.33	.35	.45	.58	1.00	1.80	2 60	1.05	1.25	1.50	2.00	2.40	3.50
" Side Outlet	.35	.38	.40	.50	65	1.35	2.00	2.75	1.20	1.45	1.70	2.25	3.00	4.00
Acorn Ornament	.16	.18	.20	.25	.35	.90	1.35	2.00	.75	.90	1.00	1.35	1.75	2.50
Bushing Reduced one and two sizes	...	.06	.07	.10	12	18	.28	.40	...	.75	.90	1.20	1.40	2.00
Hinge	.35	.40	.45	.55	.80	1.00	.....	.....	.90	1.20	1.50	2.00	2.75	3.50
Square Flange	.14	.15	.15	.20	.28	.30	.50	.75	.26	.35	.40	.70	.95	1.30
Ball Flange	.16	.18	.20	.40	.50	.90	1.35	2.50	.75	.90	1.00	1.35	1.75	2.50

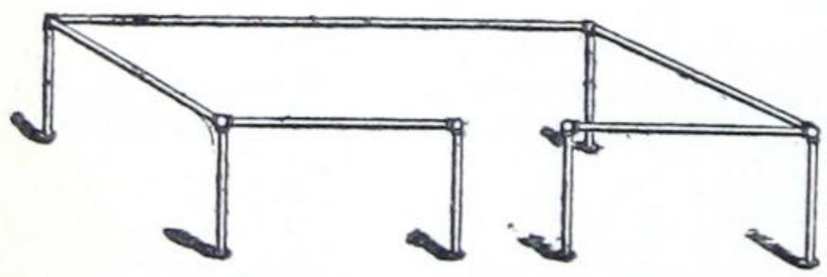


Fig. G556

PLEASE READ THIS NOTICE WITH CARE.

To construct a Railing **two** pipes high, the upper outlet of all fittings used in lower pipes should be tapped with **left-hand thread,** but when orders are sent us without specifying how outlets are to be tapped, **all fittings will invariably be furnished right-hand.**

As the Fittings do not need to be steam or water-tight, a sufficiently clean thread to screw up well and made a good job can be made by running a **left-hand tap** into any outlet tapped **right-hand.**

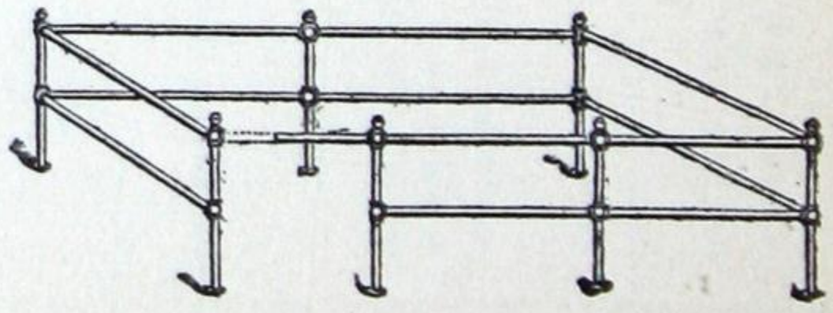


Fig. G557

ADJUSTABLE RAILING FITTINGS.

ELBOW A



Fig. G561

TEE B



Fig. G562

STAIR TEE C



Fig. G563

CROSS D

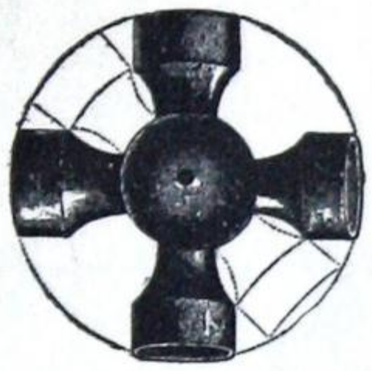


Fig. G564

STAIR CROSS E

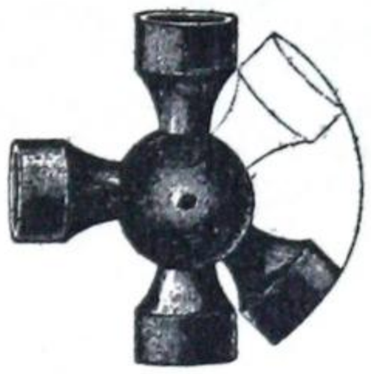


Fig. G565

FLANGE F



Fig. G566

Size, inches	Malleable Iron Fittings. 1	1¼	1½	2	Finished Brass Fittings. 1	1¼	1½	2
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbow "A" Each	1.10	1.25	1.70	2.25	2.75	3.15	4.25	5.65
Tee "B" "	1.30	1.50	2.00	2.50	3.25	3.75	5.00	6.25
Stair Tee "C" "	1.30	1.60	2.15	2.50	3.25	4.00	5.40	6.25
Cross "D" "	1.50	1.75	2.35	2.75	3.75	4.40	5.90	6.90
Stair Cross "E" "	1.50	1.85	2.50	2.75	3.75	4.65	6.25	6.90
Flange "F" "	1.65	1.75	1.90	2.50	4.10	4.40	4.75	6.25

SHOWING FITTINGS AS USED ON STAIR RAIL.

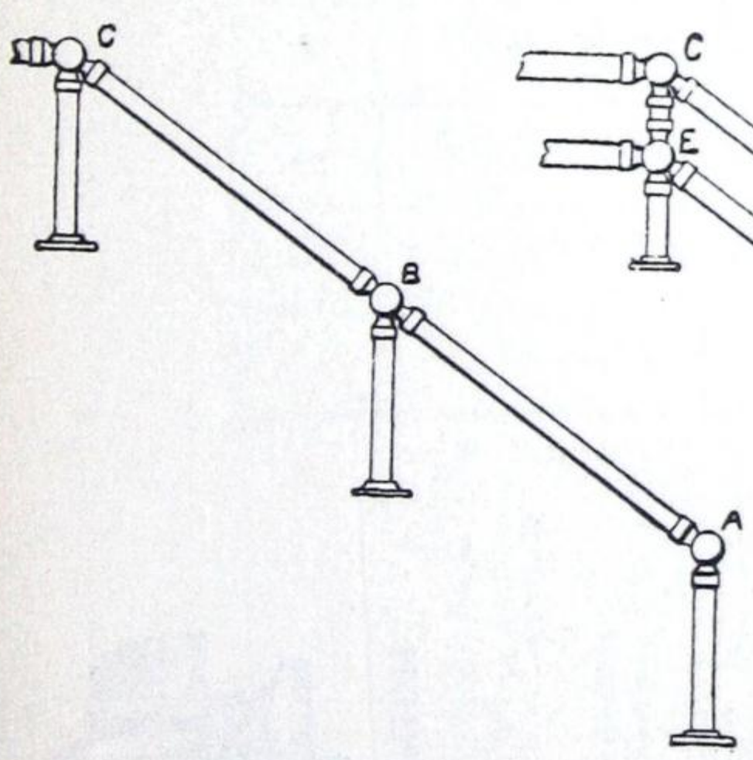


Fig. G568

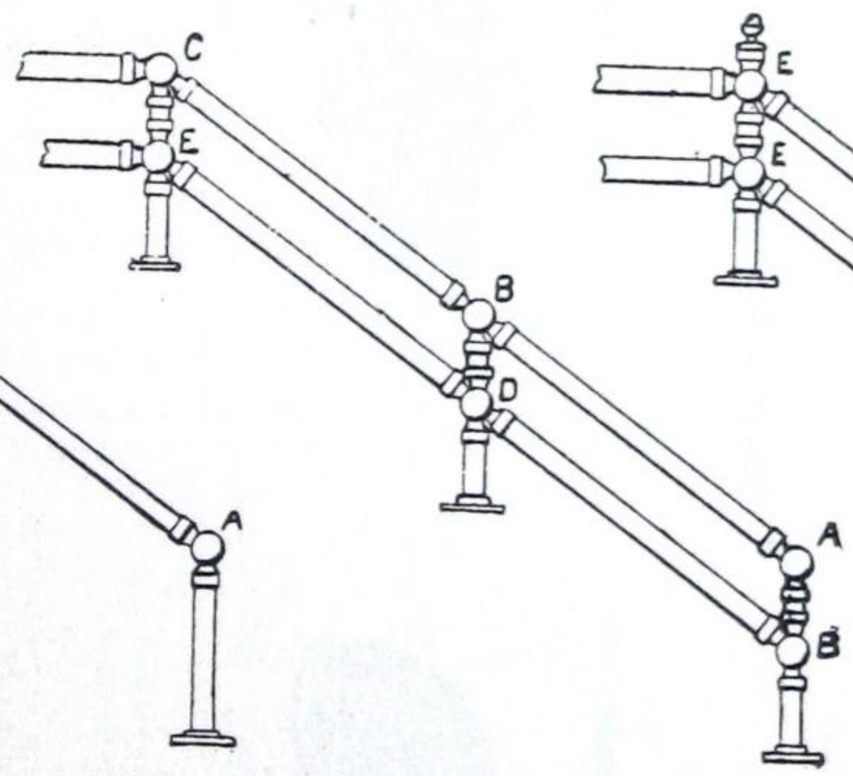


Fig. G569

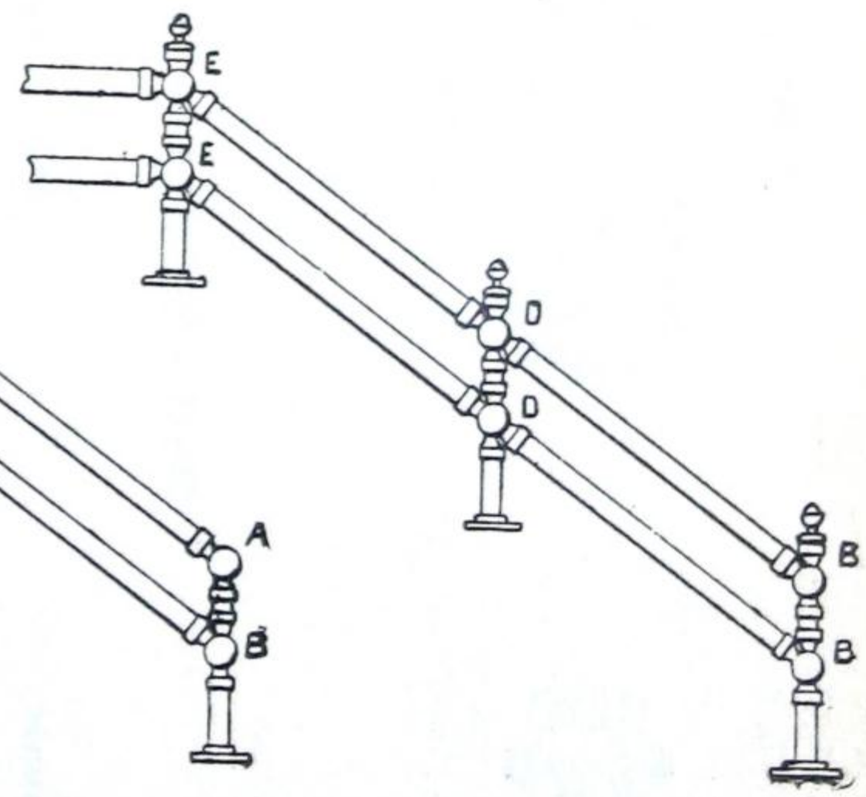


Fig. G570

By means of these Fittings, almost any angle may be obtained in Railings for stairs and other places requiring a deviation from horizontal or perpendicular lines, which would otherwise require special patterns to attain the same results.

IRON PIPE FITTINGS.

HEX. R. & L. NIPPLE



Fig. G571

LONG SCREW



Fig. G572

WROUGHT IRON COUPLING



Fig. G573

STANDARD MALLEABLE UNION



Fig. G567

UNION ELBOWS

Female



Fig. G577

Male & Female



Fig. G578

UNION TEES

Female

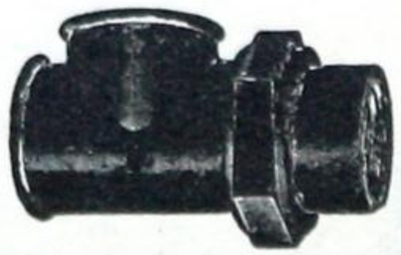


Fig. G579

Male & Female

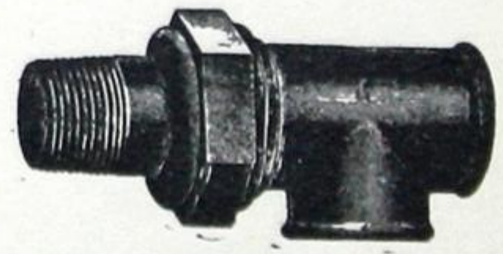


Fig. G580

DART UNION

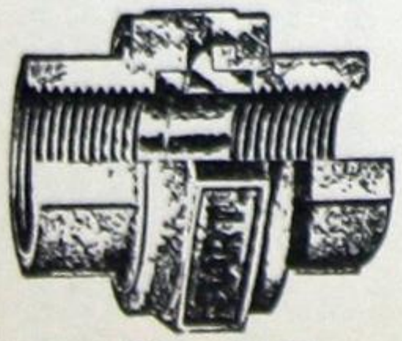


Fig. G574a

DART FLANGE UNION

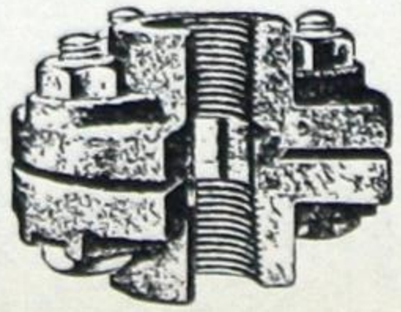


Fig. G574b

KEWANEE UNION

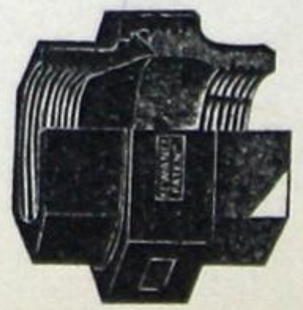


Fig. G575

IRON PIPE FITTINGS.

BLACK.

Size, Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Hexagon Nipples, R. & L. Ea.	.....	.20	.20	.20	.25	.30	.40	.50	.70	1.10	1.50	1.90	2.40	.....	.....	.....	.....	.....	.....	.....	.....
Long Screws..... "	.....	.30	.35	.40	.55	.75	1.00	1.30	1.70	2.70	3.70	5.40	6.60	.....	.....	.....	.....	.....	.....	.....	.....
Wrought Iron Couplings.. "	.05	.05	.06	.07	.10	.13	.17	.21	.28	.40	.60	.80	1.00	1.50	1.65	2.40	3.25	4.25	5.50	7.50	10.00
Unions, Standard..... "	.18	.18	.20	.22	.27	.33	.46	.58	.75	1.55	2.10	3.65	4.35	.....	.....	.....	.....	.....	.....	.....	.....
" Elbows, Female. "	.....	.38	.40	.42	.54	.63	.90	1.05	1.55	2.85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " M. & F. "	.....	.43	.45	.48	.62	.72	1.05	1.20	1.80	3.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Tees, Female.... "	.....	.40	.43	.45	.57	.70	.95	1.15	1.70	3.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Tees, M. & F.... "	.....	.48	.50	.52	.65	.80	1.10	1.30	1.95	3.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Dart..... "	.30	.30	.40	.50	.60	.80	1.20	1.60	2.00	3.20	4 80	7.20	10.80	.....	.....	.....	.....	.....	.....	.....	.....
" " Flange..... "	.....	.....	.....	.55	.60	.80	1.20	1.60	2.00	3.20	4.80	6.00	7.50	8.75	10.00	12.50	15.00	18.00	21.60	28.80	46.00
" Kewanee..... "	.18	.19	.22	.27	.40	.48	.66	.80	1.14	2.10	2.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

GALVANIZED.

Size, Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Long Screws.....Each	.....	.35	.40	.50	.66	1.00	1.25	1.60	2.10	3.10	4.70	6.50	7.75	.....	.....	.....
Wrought Iron Couplings..... "	.06	.06	.08	.10	.13	.18	.25	.32	.40	.55	.80	1.05	1.40	2.00	2.25	3.25
Unions, Standard..... "	.27	.27	.30	.33	.40	.50	.70	.90	1.15	2.35	3.15	5.50	6.50	.....	.....	.....
Union Elbows, Female..... "	.....	.57	.60	.63	.81	.95	1.35	1.58	2.35	4.30	.....	.....	.....	.....	.....	.....
" " M. & F..... "	.....	.65	.70	.72	.93	1.08	1 60	1.80	2.70	4.95	.....	.....	.....	.....	.....	.....
" Tees, Female..... "	.....	.60	.65	.68	.86	1.05	1.45	1.75	2.55	4.80	.....	.....	.....	.....	.....	.....
" " M. & F..... "	.....	.72	.75	.78	1.00	1.20	1.65	1.95	2.95	5.55	.....	.....	.....	.....	.....	.....
" Dart..... "	.39	.39	.52	.65	.78	1.04	1.56	2.08	2.60	4.16	6.24	.....	.....	.....	.....	.....
" " Flange..... "	.....	.....	.....	.75	.81	1.08	1.62	2.16	2.70	4.33	6.48	8.10	10.12	11.81	13.50	16.88
" Kewanee..... "	.22	.23	.26	.34	.49	.60	.82	1.10	1.40	2.75	3.50	.....	.....	.....	.....	.....

JEFFERSON UNIONS.
For Every Purpose.

INSERTED BRASS SEAT.

Female.

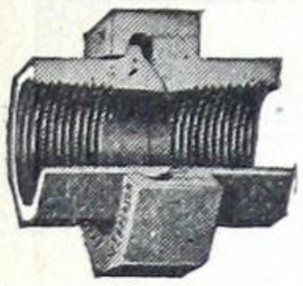


Fig. F581.a

NO GASKET REQUIRED.

Female-Reducing.



Fig. G581.b

GROUND SPHERICAL FACE.
Male & Female—Short Pattern

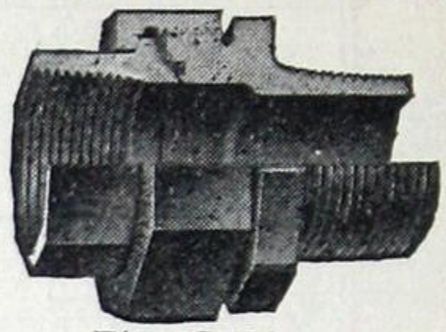


Fig. G581.c

Male & Female—Long Pattern.

Male.

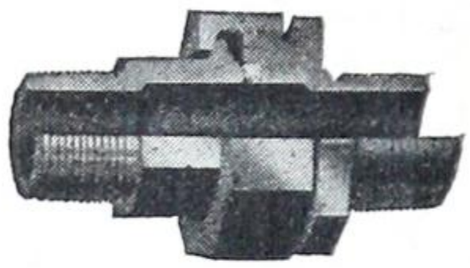


Fig. G581.d

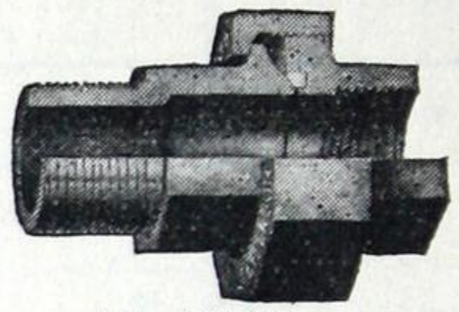


Fig. G581.e

ELBOW—Female.



Fig. G581.f

ELBOW.
Male and Female.



Fig. G581.g

45° ELBOW.
Male and Female.

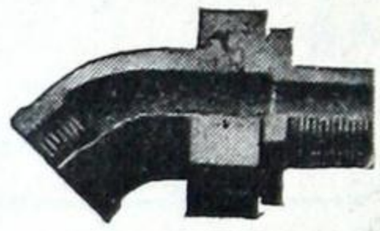


Fig. G581.h

45° ELBOW.
Female.

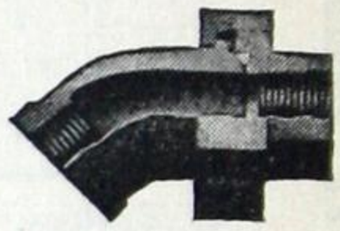


Fig. G581.i

TEE.
Female—Union on Run.



Fig. G581.j

TEE.
Male & Female—Union on Run.



Fig. G581.k

TEE.
Female—Union on Outlet.

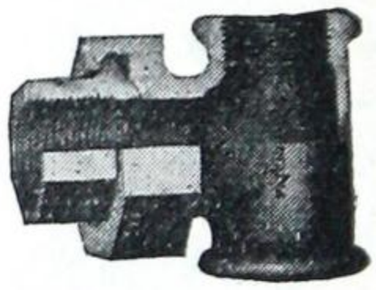


Fig. G581.l

TEE.
M. & F. Union on Outlet.

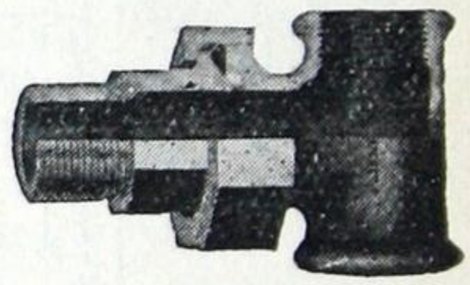


Fig. G581.m

SWING with 2-45° Elbows.



Fig. G581.n

SWING with 45° & 90° Elbs.

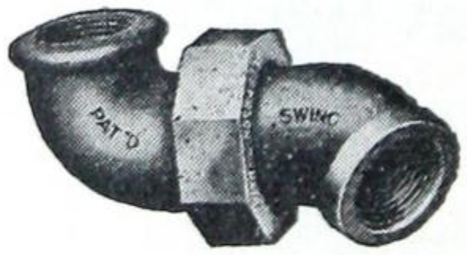


Fig. G581.o

TEE with 45° Elb. on Outlet

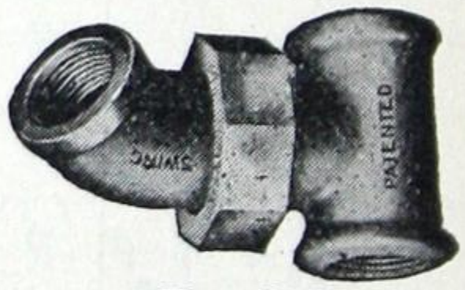


Fig. G581 p

FLANGE UNION.

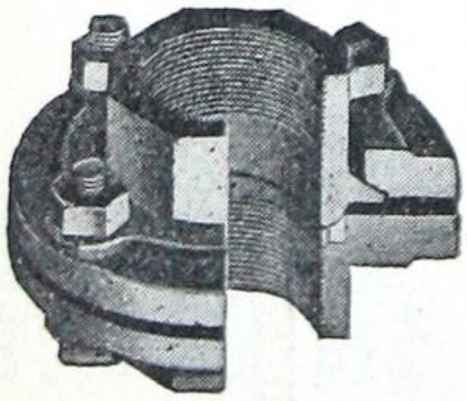


Fig. G581.q

NOTCHED NUT.



Fig. G581.r

PLAIN NUT.



Fig. G581.s

JEFFERSON UNIONS. Black—with Plain Nut.

SIZE—INCHES.	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
A. Union, Female	.30	.30	.40	.50	.60	.80	1.20	1 60	2.00	3.20	4.80	8.00	10.00
B. " " Reducing	Ma	de	to	Or	der.								
C. " M. & F., Short Pattern	....	.46	.50	.63	.74	.95	1.30	1.70	2.60	3.80	5.40	....	.....
D. " Male	....	.50	.54	.69	.82	1.10	1.50	1.80	2.90	4.40	....	....	.....
E. " M. & F., Long Pattern	....	.45	.49	.61	.73	.93	1.30	1.60	2 50	3.70	....	....	.....
F. " Elbow, Female	....	.74	.80	1.00	1.20	1.50	2.10	2.60	3.90	6.00	....	....	.....
G. " " M. & F	....	.79	85	1.10	1.30	1.60	2.30	2.80	4.20	6.60	....	....	.....
H. " 45° Elbow, M. & F	....	.70	.76	.95	1.10	1.50	2.10	2.60	3.80	5.80	....	....	.....
I. " " " Female	.65	.65	.70	.86	1.00	1.30	1.80	2.20	3.30	5.00	....	....	.....
J. " Tee, Female—Union on Run	....	.82	.89	1.10	1.30	1.70	2.30	2.90	4.30	6.90	....	....	.....
K. " " M. & F.—Union on Run	....	.86	.94	1.20	1.40	1.80	2.50	3.10	4.70	7.50	....	....	.....
L. " " Female—Union on Outlet	....	.82	.89	1.10	1.30	1.70	2.30	2.90	4.30	6.90	....	....	.....
M. " " M. & F.—Union on Outlet	....	.86	.94	1.20	1.40	1.80	2 50	3.10	4.70	7.50	....	....	.....
N. " Swing with two 45° Elbows	.83	.83	.90	1.10	1.30	1.70	2.40	3.00	4.40	6.80	....	....	.....
O. " " " 45° & 90° Elbows	....	.83	.91	1.10	1.30	1.70	2.50	3.00	4.50	7.00	....	....	.....
P. " Tee with 45° Elbow on Outlet	....	.90	.99	1.20	1.50	1.90	2.70	3.40	4.90	7.90	....	....	.....
Q. " Flange	....	....	....	.55	.60	.80	1.20	1.60	2.00	3.20	4.80	6.00	7.50
Union—Flange, two part, not Illustrated	....	....	....	.55	.60	.80	1.20	1.60	2.00	3.20	4.80	6.00	7.50
If with Notched Nut, add to List	....	.05	.05	.05	.05	.05	.10	.10	.20	.20	....	....	....

JEFFERSON UNIONS. Galvanized—with Plain Nut.

SIZE—INCHES	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
A. Union, Female	.45	.45	.60	.75	.90	1.20	1.80	2.40	3.00	4.80	7 20	12.00	15.00
B. " " Reducing	Ma	de	to	Or	der.								
C. " M. & F., Short Pattern	....	.51	.56	.71	.87	1.10	1.60	2.00	3.20	4.80	6.80	.....	.....
D. " Male	....	.55	.60	.78	.96	1.30	1.80	2.20	3.60	5.50	....	.....	.....
E. " M. & F., Long Pattern	....	.49	.54	.68	.84	1.10	1.50	1.90	3.00	4.80	....	.....	.....
F. " Elbow, Female	....	.80	.87	1.10	1.30	1.70	2.40	3.10	4.60	7.30	....	.....	.....
G. " Elbow, M. & F	....	.85	.92	1.20	1.40	1.90	2.70	3.40	5.10	8.10	....	.....	.....
H. " 45° Elbow, M. & F	....	.77	.84	1.10	1.30	1.70	2.40	3.10	4 70	7.20	....	.....	.....
I. " " " Female	.70	.70	.77	.95	1.20	1.50	2.10	2.70	4.00	6.30	....	.....	.....
J. " Tee, Female—Union on Run	....	.88	.97	1.20	1.50	2.00	2.70	3.40	5.20	8.50	....	.....	.....
K. " " M. & F. " "	....	.92	1.00	1.30	1.60	2.10	3.00	3.70	5.60	9.30	....	.....	.....
L. " " Female—Union on Outlet	....	.88	.97	1.20	1.50	2.00	2.70	3.40	5.20	8.50	....	.....	.....
M. " " M. & F. " " "	....	.92	1.00	1.30	1.60	2.10	3.00	3.70	5.60	9.30	....	.....	.....
N. " Swing with two 45° Elbows	.89	.89	.97	1.30	1.50	2.00	2.80	3.50	5.40	8.30	....	.....	.....
O. " " " 45° & 90° Elbows	....	.89	.98	1.30	1.50	2.00	2.80	3.70	5.40	8.60	....	.....	.....
P. " Tee, with 45° Elbow on Outlet	....	.97	1.10	1.40	1.70	2.20	3.10	4.00	6.00	9.80	....	.....	.....
Q. Union—Flange	....	....	....	.75	.80	1.10	1.60	2.15	2.70	4.30	6.50	8.10	10.15
Union—Flange, two part; not Illustrated	....	....	....	.75	.80	1.10	1.60	2.15	2.70	4.30	6.50	8.10	10.15
If with Notched Nut add to List	....	.05	.05	.05	.05	.10	.10	.10	.20	.20	....	.....	.....

IRON PIPE FITTINGS.

GALVANIZED MALLEABLE BOILER COUPLINGS With Union

Straight



Fig. G586

Bent



Fig. G587

Size	Female Male ¾ x ¾ x 1	Female Male ¾ x ½ x 1	Female Male ½ x ½ x 1
	$ c.	$ c.	$ c.
Straight, each	.75	.75	.60
Bent, each	.75	.75	.60

GALVANIZED MALLEABLE RANGE BOILER SEDIMENT TEE

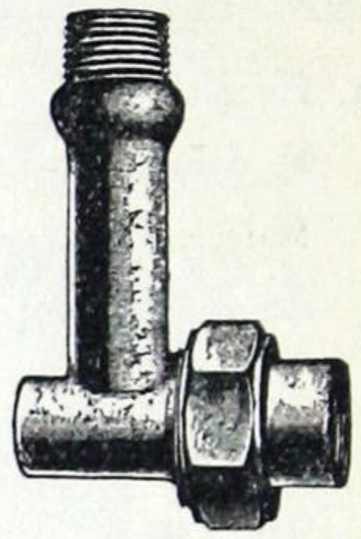


Fig. G588

	Female Male
Size	¾ x ½ x 1
Each	$ .80



Fig. G590

GALVANIZED WASH TRAY TEES.

Size	½	¾	¾ x ½
Each	$ .20	$ .30	$ .30

CROSS-OVER



Fig. G591

CROSS-OVER Back Outlet



Fig. G592

CROSS-OVER Tee



Fig. G593

Size	½	¾	1
	$ c.	$ c.	$ c.
Cross-over, Black ..... Each	.20	.30	.45
" Back Outlet, Black... "	.23	.38	.55
" Tee, Black ..... "	.35	.50	.75
Cross-over, Galvanized ..... "	.25	.40	.60
" Back Outlet, Galvanized "	.30	.50	.75
" Tee, Galvanized ..... "	.50	.70	1.00

IRON PIPE FITTINGS.

PIPE CLAMPS OR SADDLES

Water



Fig. G594

Steam



Fig. G595

Size Pipe		Water		Steam	
Wrought Iron	Cast Iron	Tapping I.P.	Price, each	Tapping, I.P.	Price, each
			$ c.		$ c.
1½	...	½ and ¾	1.00	½ and ¾	.90
2	...	½ to 1	1.00	½ to 1½	1.00
2½	2	½ to 1¼	1.25	¾ to 1½	1.25
3	...	½ to 1	1.25	¾ to 2	1.25
3	...	1¼ to 2	1.50	....	....
3½	3	½ to 1	1.50	¾ to 2	1.40
3½	3	1¼ to 2	1.75	....	....
4	...	½ to 1½	1.75	¾ to 2	1.50
4	...	2	2.00	....	....
4	...	2½ and 3	4.00	....	....
4½	4	¾ to 1½	1.80	¾ to 2	2.50
4½	4	2	2.15	....	....
4½	4	2½ and 3	4.00	....	....
5	...	¾ to 1½	1.80	¾ to 3	2.75
5	...	2	2.15	....	....
5	...	2½ and 3	4.00	....	....
..	5	½ to 1½	2.00	....	....
..	5	2	2.40	....	....
..	5	2½ and 3	4.50	....	....
6	...	¾ to 1½	2.25	¾ to 2	2.75
6	...	2	2.50	2½ to 4	5.75
6	...	2½ and 3	5.00	....	....
7	6	¾ to 1½	2.50	1 to 4	6.50
7	6	2	2.70	....	....
7	6	2½ and 3	5.00	....	....
..	7	¾ to 1½	4.50	....	....
..	7	2	5.00	....	....
..	7	2½ and 3	5.50	....	....
8	...	¾ to 3	5.50	1 to 4	6.50
8	...	4	6.00	....	....
9	...	1½ to 3	8.00	1½ to 4	8.50
10	9	¾ to 2	9.00	1½ to 6	10.00
12	...	¾ to 2	10.00	1½ to 6	14.00

When ordering, always give size and kind of pipe, size of tapping, and if for Water or Steam.

Note.—Cast Iron Pipe ½" wall, except 2" with 7/16" wall.

PUMP ROD COUPLING



Fig. G596

Size.....	⅜	7/16	½
Price, each....	$ .05	$ .06	$ .07

COCK WRENCH



Fig. G597

No.	Size of, Square Inches.
0	¼
1	11/32
2	⅜
3	15/32
3½	17/32
4	⅝
4½	11/16
5	23/32
5½	¾
6	13/16
6½	⅞
7	1
7½	1 1/32
8	1 3/32
8½	1 3/16
9	1 5/16
10	1½
11	1 23/32
12	1 27/32

Price per lb.....$ .20

CLOSE **SHORT**



Fig. G598



Fig. G599

WROUGHT IRON NIPPLES.

Black Iron—Right Hand.

LONG



Fig. G600

Length in Inches						Size, Inches	Prices		Price of Extra Long Nipples. Lengths in Inches								
Close	Short	Long					Close or Short	Long	4	5	6	7	8	9	10	11	12
							$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
¾	1½	2	2½	3	3½	⅛	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
⅞	1½	2	2½	3	3½	¼	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
1	1½	2	2½	3	3½	⅜	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
1⅛	1½	2	2½	3	3½	½	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23
1⅜	2	2½	3	3½	4	¾	.06	.09	.....	.11	.13	.17	.18	.20	.22	.24	.26
1½	2	2½	3	3½	4	1	.08	.13	.....	.15	.18	.23	.25	.28	.31	.34	.36
1⅝	2½	3	3½	4	4½	1¼	.11	.17	.....	.20	.24	.29	.33	.36	.40	.44	.47
1¾	2½	3	3½	4	4½	1½	.13	.20	.....	.25	.29	.36	.40	.45	.50	.54	.59
2	2½	3	3½	4	4½	2	.18	.27	.....	.32	.38	.50	.54	.59	.65	.72	.77
2½	3	3½	4	4½	5	2½	.39	.59	.....	.....	.68	.90	.97	1.06	1.17	1.26	1.35
2½	3	3½	4	4½	5	3	.48	.72	.....	.....	.85	1.08	1.20	1.33	1.45	1.58	1.70
2¾	4	4½	5	5½	6	3½	.75	1.05	.....	.....	.....	1.30	1.45	1.60	1.75	1.90	2.05
3	4	4½	5	5½	6	4	.85	1.20	.....	.....	.....	1.52	1.69	1.87	2.05	2.22	2.40
3	4	4½	5	5½	6	4½	1.25	1.70	.....	.....	.....	2.25	2.50	2.75	2.95	3.17	3.40
3¼	4½	5	5½	6	6½	5	1.55	2.45	.....	.....	.....	2.58	2.83	3.10	3.35	3.60	3.85
3½	4½	5	5½	6	6½	6	1.85	2.90	.....	.....	.....	3.05	3.35	3.70	4.00	4.30	4.65
3½	5	....	....	....	....	7	3.20	.....	.....	.....	3.60	4.05	4.45	4.90	5.30	5.75	6.15
3½	5	....	....	....	....	8	3.55	.....	.....	.....	4.05	4.55	5.05	5.50	6.00	6.50	7.00
4	5	....	....	....	....	9	5.25	.....	.....	.....	.....	.....	6.50	7.10	7.75	8.40	9.00
4	5	....	....	....	....	10	6.75	.....	.....	.....	.....	.....	8.25	8.90	9.70	10.40	11.15
4	5	....	....	....	....	12	8.00	.....	.....	.....	.....	.....	10.00	10.80	11.75	12.70	13.65

Black Iron—Right and Left.

Length in Inches						Size, Inches	Prices		Price of Extra Long Nipples Lengths in Inches								
Close	Short	Long					Close or Short	Long	4	5	6	7	8	9	10	11	12
							$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
¾	1½	2	2½	3	3½	⅛	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
⅞	1½	2	2½	3	3½	¼	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
1	1½	2	2½	3	3½	⅜	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
1⅛	1½	2	2½	3	3½	½	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31
1⅜	2	2½	3	3½	4	¾	.08	.12	.....	.15	.17	.23	.25	.27	.29	.32	.35
1½	2	2½	3	3½	4	1	.11	.18	.....	.20	.24	.31	.33	.37	.41	.45	.48
1⅝	2½	3	3½	4	4½	1¼	.15	.23	.....	.27	.32	.39	.45	.50	.55	.60	.65
1¾	2½	3	3½	4	4½	1½	.18	.27	.....	.34	.39	.48	.52	.60	.67	.72	.80
2	2½	3	3½	4	4½	2	.24	.36	.....	.43	.51	.67	.72	.80	.87	.96	1.03
2½	3	3½	4	4½	5	2½	.52	.79	.....	.....	.91	1.20	1.30	1.40	1.55	1.68	1.80
2½	3	3½	4	4½	5	3	.65	.96	.....	.....	1.13	1.44	1.60	1.77	1.93	2.10	2.27
2¾	4	4½	5	5½	6	3½	1.00	1.40	.....	.....	.....	1.75	1.95	2.15	2.35	2.55	2.75
3	4	4½	5	5½	6	4	1.15	1.60	.....	.....	.....	2.00	2.25	2.50	2.75	3.00	3.25

WROUGHT IRON NIPPLES.

Galvanized—Right Hand.

Length in Inches						Size, Inches	Prices		Prices of Extra Long Nipples								
									Lengths in Inches								
Close	Short	Long					Close or Short	Long	4	5	6	7	8	9	10	11	12
							$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3/4	1 1/2	2	2 1/2	3	3 1/2	1/8	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
7/8	1 1/2	2	2 1/2	3	3 1/2	1/4	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1	1 1/2	2	2 1/2	3	3 1/2	3/8	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1 1/8	1 1/2	2	2 1/2	3	3 1/2	1/2	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36
1 3/8	2	2 1/2	3	3 1/2	4	3/4	.08	.14	.....	.18	.21	.26	.29	.32	.35	.38	.41
1 1/2	2	2 1/2	3	3 1/2	4	1	.11	.19	.....	.24	.28	.34	.38	.42	.47	.51	.55
1 5/8	2 1/2	3	3 1/2	4	4 1/2	1 1/4	.17	.29	.....	.32	.38	.45	.51	.57	.63	.69	.75
1 3/4	2 1/2	3	3 1/2	4	4 1/2	1 1/2	.21	.35	.....	.39	.46	.55	.63	.70	.77	.84	.91
2	2 1/2	3	3 1/2	4	4 1/2	2	.27	.47	.....	.52	.61	.74	.83	.93	1.03	1.13	1.23
2 1/2	3	3 1/2	4	4 1/2	5	2 1/2	.56	.86	.....	.....	1.00	1.26	1.41	1.56	1.71	1.86	2.01
2 1/2	3	3 1/2	4	4 1/2	5	3	.70	1.10	.....	.....	1.30	1.60	1.80	2.00	2.20	2.40	2.60
2 3/4	4	4 1/2	5	5 1/2	6	3 1/2	1.20	1.70	.....	.....	.....	2.10	2.35	2.60	2.85	3.15	3.40
3	4	4 1/2	5	5 1/2	6	4	1.35	1.87	.....	.....	.....	2.30	2.60	2.90	3.20	3.50	3.80
3	4	4 1/2	5	5 1/2	6	4 1/2	1.85	2.60	.....	.....	.....	3.30	3.65	4.05	4.45	4.85	5.25
3 1/4	4 1/2	5	5 1/2	6	6 1/2	5	2.30	3.15	.....	.....	.....	3.75	4.20	4.60	5.00	5.40	5.85
3 1/4	4 1/2	5	5 1/2	6	6 1/2	6	2.80	4.25	.....	.....	.....	4.50	5.00	5.55	6.05	6.60	7.15
3 1/2	5	....	....	....	....	7	4.25	.....	.....	.....	4.95	5.65	6.35	7.05	7.75	8.45	9.20
3 1/2	5	....	....	....	....	8	5.00	.....	.....	.....	5.80	6.65	7.50	8.35	9.25	10.10	10.95

Galvanized—Right and Left.

Length in Inches						Size, Inches	Prices		Prices of Extra Long Nipples								
									Lengths in Inches								
Close	Short	Long					Close or Short	Long	4	5	6	7	8	9	10	11	12
							$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3/4	1 1/2	2	2 1/2	3	3 1/2	1/8	.08	.13	.15	.18	.21	.26	.29	.32	.37	.40	.43
7/8	1 1/2	2	2 1/2	3	3 1/2	1/4	.08	.13	.15	.18	.21	.26	.29	.32	.37	.40	.43
1	1 1/2	2	2 1/2	3	3 1/2	3/8	.08	.13	.15	.18	.21	.26	.29	.32	.37	.40	.43
1 1/8	1 1/2	2	2 1/2	3	3 1/2	1/2	.11	.16	.18	.21	.26	.29	.34	.38	.43	.46	.50
1 3/8	2	2 1/2	3	3 1/2	4	3/4	.13	.19	.....	.24	.27	.37	.40	.43	.46	.51	.56
1 1/2	2	2 1/2	3	3 1/2	4	1	.18	.29	.....	.32	.38	.50	.53	.59	.66	.72	.77
1 5/8	2 1/2	3	3 1/2	4	4 1/2	1 1/4	.24	.37	.....	.43	.51	.62	.72	.80	.88	.96	1.04
1 3/4	2 1/2	3	3 1/2	4	4 1/2	1 1/2	.29	.43	.....	.54	.62	.77	.83	.96	1.07	1.15	1.28
2	2 1/2	3	3 1/2	4	4 1/2	2	.39	.57	.....	.69	.82	1.07	1.15	1.28	1.39	1.54	1.65
2 1/2	3	3 1/2	4	4 1/2	5	2 1/2	.83	1.25	.....	.....	1.46	1.92	2.08	2.24	2.48	2.69	2.88
2 1/2	3	3 1/2	4	4 1/2	5	3	1.04	1.54	.....	.....	1.81	2.30	2.56	2.83	3.09	3.36	3.63
2 3/4	4	4 1/2	5	5 1/2	6	3 1/2	1.60	2.24	.....	.....	.....	2.80	3.12	3.44	3.76	4.08	4.40
3	4	4 1/2	5	5 1/2	6	4	1.84	2.56	.....	.....	.....	3.20	3.60	4.00	4.40	4.80	5.20

BRASS FITTINGS.

ELBOW



Fig. G601

45° ELBOW



Fig. G602

STREET ELBOW

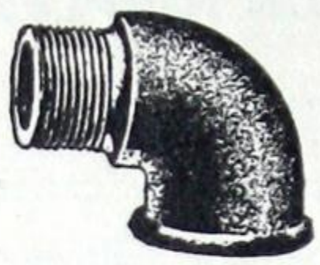


Fig. G603

ELBOW Side Outlet



Fig. G604

DROP ELBOW



Fig. G605

TEE



Fig. G606

DROP TEE



Fig. G607a

"Y" BEND



Fig. G607b

CROSS



Fig. G608

COUPLING



Fig. G609

R. & L. COUPLING



Fig. G610

REDUCING COUPLING



Fig. G611

PLUG



Fig. G612

CAP



Fig. G613

LOCK-NUT



Fig. G614

BUSHING



Fig. G615

RETURN BEND Close



Fig. G616

RETURN BEND Open



Fig. G617

OCTAGON UNION

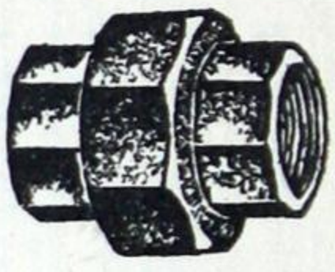


Fig. G621

FLANGE UNION



Fig.G622

MALLEABLE PATTERN—ROUGH—For Iron Pipe—125 lbs. Working Pressure.

SIZE, INCHES		⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows	each	.12	.15	.20	.28	.40	.63	.90	1.20	2.00	3.50	6.00	8.00	10.00
" Reducing	"	.....	.19	.25	.35	.50	.80	1.10	1.50	2.50	4.25	7.50	10.00	12.50
" 45°	"	.16	.20	.25	.31	.40	.63	.90	1.20	2.00	3.50	6.00	8.00	10.00
" Street	"	.25	.27	.33	.48	.63	.85	1.50	2.00	3.25	6.00	10.00	.....	.....
" Side Outlet	"	.....	.45	.60	.85	1.20	1.90	2.75	3.60	6.00	10.50	18.00	.....	.....
" Drop	"	.....	.....	.35	.45	.65	1.05	1.50	2.00	3.40	.....	.....	.....	.....
Tees	"	.17	.21	.28	.40	.55	.85	1.25	1.70	2.80	5.00	8.50	11.00	14.00
" Reducing	"	.....	.25	.35	.50	.70	1.05	1.55	2.10	3.50	6.25	10.50	14.00	17.50
" Drop	"	.....	.....	.43	.57	.80	1.25	1.85	2.50	4.20	.....	.....	.....	.....
" Side Outlet	"	.....	.....	.....	1.20	1.65	2.50	3.75	5.00	8.50	.....	.....	.....	.....
"Y" Bends	"	.....	.....	.60	.75	1.10	1.65	2.50	3.30	5.50	9.50	16.00	21.00	26.00
Crosses	"	.25	.30	.40	.55	.80	1.25	1.80	2.40	4.00	7.00	12.00	16.00	20.00
" Reducing	"	.....	.38	.50	.70	1.00	1.55	2.25	3.00	5.00	8.75	15.00	20.00	25.00
Couplings	"	.10	.13	.17	.25	.37	.55	.80	1.00	1.60	2.50	3.50	5.25	7.00
" R. & L.	"	.13	.17	.22	.30	.45	.70	1.00	1.30	2.00	3.10	4.50	.....	.....
" Reducing	"	.....	.15	.20	.28	.40	.60	.90	1.10	1.75	2.75	4.00	6.00	8.00
Plugs	"	.08	.10	.12	.15	.20	.30	.45	.60	.95	1.50	2.25	3.75	5.00
" Solid	"	.....	.....	.18	.22	.30	.45	.80	1.20	1.90	3.00	4.50	7.50	10.00
" Countersunk	"	.....	.....	.....	.22	.30	.45	.65	.90	1.40	.....	.....	.....	.....
Caps	"	.10	.13	.16	.20	.30	.42	.60	.80	1.25	2.50	3.50	5.50	7.00
Locknuts	"	.10	.10	.12	.15	.20	.28	.40	.55	.80	1.75	2.75	4.00	5.00
Bushings	"	.....	.10	.12	.15	.22	.35	.50	.70	1.00	1.50	2.50	3.75	5.00
" Faced	"	.....	.12	.15	.19	.27	.44	.62	.87	1.25	1.85	3.10	4.75	6.25
Return Bends, Close	"	.....	.....	.55	.70	1.00	1.25	1.80	2.50	4.25	7.00	10.00	.....	.....
Return Bends, Open	"	.....	.....	.60	.80	1.10	1.40	2.15	3.00	4.75	8.25	11.00	.....	.....
Octagon Unions	"	.60	.65	.85	1.10	1.50	2.00	2.80	3.60	5.25	9.00	14.00	22.50	30.00
Flange Unions, with Iron Bolts	"	.....	.....	.....	4.00	4.50	5.00	5.50	7.00	9 00	11.50	15.00	18.00	22.00

Fittings, Reducing more than two sizes, add 25% to reducing list.
" Right and Left, add 25%.

MALLEABLE PATTERN—FINISHED—For Iron Pipe.

SIZE, INCHES.		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Elbows	Each	.30	.35	.45	.56	.75	1.10	1.55	2.00	3.00	5 50	9.00	14.00	17.50
" Reducing	"	.....	.44	.55	.70	.95	1.40	1.90	2.50	3.75	6.75	11.25	17.50	22.00
" 45°	"	.38	.45	.55	.66	.85	1.23	1.70	2.20	3.25	6.00	9.75	15.50	19.50
Elbows, Street	"	.47	.52	.63	.83	1.08	1.45	2.30	3.00	4.50	8.50	13.75	.....	.....
" Side Outlet	"	.....	1.05	1.35	1.70	2.25	3.30	4.70	6.00	9.00	16.50	27.00	.....	.....
" Drop	"	.....	.....	.85	1.05	1.40	2.00	2.80	3.60	5.40	.....	.....	.....	.....
Tees	"	.42	.49	.63	.80	1.05	1.50	2.15	2.80	4.20	7.75	12.75	19.50	24.50
" Reducing	"	.....	.60	.77	1.00	1.30	1.85	2.65	3.50	5.25	9.75	15.80	24.50	30.50
" Drop	"	.....	.....	1.13	1.37	1.80	2.55	3.65	4.70	7.00	.....	.....	.....	.....
Tees, Side Outlet	"	.....	.....	.....	2.05	2.70	3.90	5.70	7.40	11.50	.....	.....	.....	.....
"Y" Bends	"	.....	.....	1.35	1.60	2.15	3.05	4.45	5.70	8.50	15.50	25.00	33.00	41.00
Crosses	"	.60	.70	.90	1.10	1.50	2.20	3.10	4.00	6.00	11.00	18.00	28.00	35.00
Crosses, Reducing	"	.....	.88	1.10	1.40	1.85	2.75	3 85	5.00	7.50	13.75	22.50	35.00	44.00
Couplings	"	.24	.28	.36	.46	.63	.90	1.30	1.60	2.35	4.00	5.75	9.75	12.50
" R. & L	"	.31	.37	.47	.58	.80	1.15	1.65	2.10	3.00	5.10	7.50	.....	.....
" Reducing	"	.....	.35	.45	.56	.75	1.05	1.55	1.90	2.75	4.75	7.00	12.00	15.50
Plugs	"	.23	.30	.37	.43	.55	.75	1.00	1.30	1.95	3.00	4.25	6.25	8.00
Caps	"	.20	.25	.31	.40	.55	.77	1.10	1.50	2.25	4.00	5.50	8.00	10.00
Locknuts	"	.24	.25	.32	.40	.50	.65	.85	1.10	1.60	3.25	4.75	6.50	8.00
Bushings	"	.....	.22	.27	.35	.47	.70	1.00	1.40	2.00	3.00	4.50	6.25	8.00
Return Bends, Close	"	.....	.....	1.30	1.55	2.05	2.65	3.75	4.90	7.25	13.00	19.00	.....	.....
Return Bends, Open	"	.....	.....	1.35	1.65	2.15	2.80	4.10	5.40	7.75	14.25	20.00	.....	.....
Octagon Unions	"	.85	.90	1.15	1.45	1.90	2.50	3.35	4.25	6.00	10.00	16.00	25.00	33.00

Fittings, Reducing more than two sizes, add 25% to reducing list.
" Right and Left, add 25%.

MALLEABLE PATTERN—FINISHED AND NICKEL PLATED—For Iron Pipe.

SIZE, INCHES.		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Elbows	each	.36	.42	.53	.65	.87	1.25	1.75	2.25	3.35	6.15	10.00	16.00	20.00
" Reducing	"	.....	.52	.65	.82	1.10	1.60	2.15	2.85	4.15	7.60	12.50	20.00	25.00
" 45°	"	.45	.53	.65	.78	1.00	1.43	1.95	2.55	3.65	6.85	11.00	18.00	22.50
Elbows, Street	"	.54	.60	.73	.95	1.23	1.65	2.55	3.35	4.90	9.35	15.00	.....	.....
" Side Outlet	"	.....	1.25	1.60	2.00	2.60	3.75	5.35	6.80	10.00	18.50	30.00	.....	.....
" Drop	"	.....	.....	1.00	1.25	1.65	2.30	3.20	4.10	6.00	.....	.....	.....	.....
Tees	"	.50	.58	.75	.93	1.22	1.70	2.45	3.15	4.65	8.65	14.00	22.30	28.00
" Reducing	"	.....	.72	.90	1.15	1.50	2.10	3.00	3.95	5.85	10.90	17.50	28.00	35.00
" Drop	"	.....	.....	1.33	1.62	2.15	2.95	4.25	5.45	7.90	.....	.....	.....	.....
Tees, Side Outlet	"	.....	.....	.....	2.35	3.05	4.35	6.35	8.20	12.50	.....	.....	.....	.....
"Y" Bends	"	.....	.....	1.60	1.90	2.50	3.50	5.10	6.50	9.50	17.50	28.00	37.00	46.00
Crosses	"	.72	.84	1.05	1.30	1.75	2.50	3.50	4.50	6.70	12.30	20.00	32.00	40.00
Crosses, Reducing	"	.....	1.05	1.30	1.65	2.15	3.15	4.35	5.70	8.30	15.40	25.00	40.00	50.00
Couplings	"	.29	.33	.42	.53	.72	1.00	1.45	1.80	2.60	4.50	6.50	11.25	14.25
" R. & L	"	.37	.44	.55	.67	.92	1.30	1.85	2.35	3.35	5.75	8.50	.....	.....
Couplings, Reducing	"	.....	.42	.53	.65	.87	1.20	1.75	2.15	3.10	5.40	8.00	14.00	18.00
Plugs	"	.28	.37	.45	.52	.67	.90	1.20	1.55	2.30	3.50	4.90	7.10	9.00
Caps	"	.23	.29	.36	.47	.63	.89	1.25	1.75	2.60	4.50	6.15	8.85	11.00
Locknuts	"	.29	.30	.39	.48	.60	.77	1.00	1.30	1.85	3.75	5.40	7.35	9.00
Bushings	"	.....	.26	.32	.42	.55	.82	1.15	1.65	2.35	3.50	5.15	7.10	9.00
Return Bends, Close	"	.....	.....	1.55	1.85	2.40	3.10	4.40	5.70	8.25	15.00	22.00	.....	.....
Return Bends, Open	"	.....	.....	1.60	1.95	2.50	3.25	4.75	6.20	8.75	16.25	23.00	.....	.....
Octagon Unions	"	1.02	1.08	1.38	1.74	2.28	3.00	4.02	5.10	7.20	12.00	19.20	30.00	39.60

Fittings, Reducing more than two sizes, add 25% to reducing list.
" Right and Left, add 25%.

BRASS FITTINGS.

EXTRA HEAVY. CAST IRON PATTERN. 250 POUNDS STEAM WORKING PRESSURE. FOR IRON PIPE.

ELBOW.



Fig. G624a.

45° ELBOW.



Fig. G624b.

TEE.

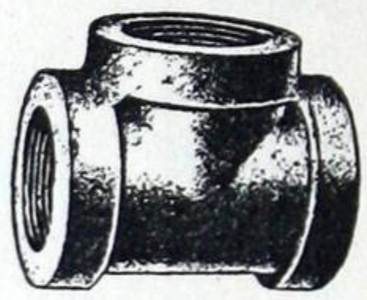


Fig. G624c.

"Y" BEND.



Fig. G624d.

CROSS.



Fig. G624e.

RETURN BEND. Close.



Fig. G624f.

RETURN BEND. Open.

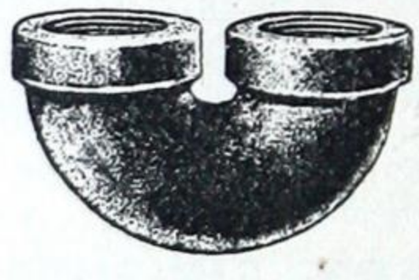


Fig. G624g.

FLANGE UNION.

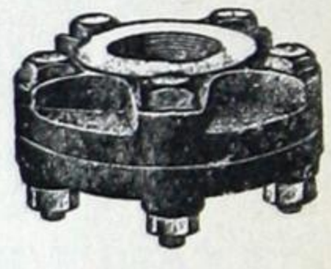


Fig. G624h.

ROUGH.

SIZE, INCHES		¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows	each	$ .33	$ .45	$ .65	$1.00	$1.50	$2.25	$ 3.00	$ 4.50	$ 8.00	$11.25	$16.00	$22.00
" Reducing	"	.....	.55	.75	1.20	1.80	2.60	3.50	5.25	9.00	13.00	19.00	25.00
" R. & L.	"	.40	.55	.75	1.20	1.80	2.60	3.50	5.25	9.00	13.00	.....	.....
" 45°	"	.45	.55	.75	1.10	1.65	2.50	3.25	4.50	8.00	11.25	16.00	22.00
Tees	"	.45	.60	.90	1.35	2.00	3.00	4.00	6.00	10.75	15.00	22.00	30.00
" Reducing	"	.....	.70	1.05	1.55	2.30	3.50	4.50	6.75	12.00	17.00	25.00	35.00
"Y" Bends	"	.90	1.10	1.50	2.50	3.50	5.50	7.25	11.00	19.00	27.00	33.00	45.00
Crosses	"	.70	.90	1.30	2.00	3.00	4.50	6.00	9.00	16.00	22.50	28.00	37.00
" Reducing	"	.....	1.10	1.50	2.40	3.60	5.25	7.00	10.50	18.00	26.00	32.00	42.00
Return Bends, Close	"	.....	.....	1.65	2.50	3.50	5.00	7.00	10.00	16.00	22.00	30.00	40.00
Return Bends, Open	"	.....	.....	1.80	2.75	4.00	5.50	8.00	11.00	18.00	25.00	35.00	45.00
Couplings	"	.40	.50	.70	1.10	1.65	2.25	3.00	4.50	7.00	10.00	13.00	17.00
Flange Unions, with Iron Bolts	"	.....	.....	.....	7.50	8.50	11.00	13.00	16.00	18.00	24.00	27.00	30.00

BRASS FITTINGS.

Extra Heavy Cast Iron Pattern, 250 Pounds Steam Working Pressure. For Iron Pipe.

FINISHED.

SIZE—INCHES	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbows.....each	.73	.95	1.25	1.75	2.50	3.50	4.50	6.25	10.50	14.75	23.50	31.00
" Reducing..... "	.....	1.15	1.50	2.10	3.00	4.10	5.35	7.50	12.00	17.25	28.00	36.00
" R. & L..... "	.90	1.15	1.50	2.10	3.00	4.10	5.35	7.50	12.00	17.25	.....	.....
" 45°..... "	.95	1.15	1.50	2.00	2.85	4.00	5.10	6.75	11.00	15.50	25.00	33.00
Tees..... "	1.00	1.25	1.70	2.35	3.35	4.65	6.00	8.35	14.00	19.75	32.00	42.00
" Reducing..... "	.....	1.50	2.05	2.80	4.00	5.50	7.00	9.75	16.00	23.00	37.00	50.00
"Y" Bends..... "	.....	.....	2.70	4.00	5.50	8.00	10.25	14.50	24.00	34.00	48.00	63.00
Crosses..... "	.....	.....	2.50	3.50	5.00	7.00	9.00	12.50	21.00	29.50	43.00	55.00
" Reducing..... "	.....	.....	3.00	4.25	6.00	8.25	10.75	15.00	24.00	35.00	50.00	64.00
Return Bends, Close..... "	.....	.....	2.85	4.00	5.50	7.50	10.00	13.50	21.00	29.00	.....	58.00
" " Open..... "	.....	.....	3.00	4.25	6.00	8.00	11.00	14.50	23.00	32.00	.....	63.00
Couplings..... "	.75	.90	1.15	1.70	2.40	3.20	4.15	5.85	9.00	13.00	18.50	24.00

BRASS NIPPLES—IRON PIPE SIZE.



Fig. G625.

SIZE—INCHES.	LENGTH, INCHES.										
	Close	1½	2	2½	3	3½	4	4½	5	5½	6
¼".....each.	$ .11	$ .13	$ .15	$ .17	$ .19	$ .21	$ .23	$ .25	$ .27	$ .29	$ .31
⅜"..... "	.13	.16	.19	.22	.25	.28	.31	.34	.37	.40	.43
½"..... "	.15	.19	.23	.27	.31	.35	.39	.43	.47	.51	.55
¾"..... "	.23	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70
1"..... "	.28	....	.35	.42	.49	.56	.63	.70	.77	.84	.91
1¼"..... "	.37	....	.44	.53	.62	.71	.80	.89	.98	1.07	1.16
1½"..... "	.60	....	....	.75	.88	1.01	1.14	1.27	1.40	1.53	1.66
2"..... "	.70	....	....	.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95
2½"..... "	1.00	....	....	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60
3"..... "	1.70	....	....	....	2.00	2.30	2.60	2.90	3.20	3.50	3.80
3½"..... "	2.50	....	....	....	2.90	3.30	3.70	4.10	4.50	4.90	5.30
4"..... "	4.00	....	....	....	....	....	5.40	6.00	6.60	7.20	7.80
	4.75	....	....	....	....	....	6.15	6.85	7.55	8.25	8.95

Polished Brass Nipples Longer than Close, 25% Extra.

CAST IRON FITTINGS.

FLANGED.

EXTRA HEAVY.—Steam Working Pressure up to 250 lbs.

Base Fittings and Taper Reducers made to order. Prices on application.

Reducing Tees, Single Sweep Tees, and Y's made reducing in Run or Branch. Double Sweep Tees, Reducing on Branch only.

ELBOW



Fig. G626

45° ELBOW



Fig. G627

TEE

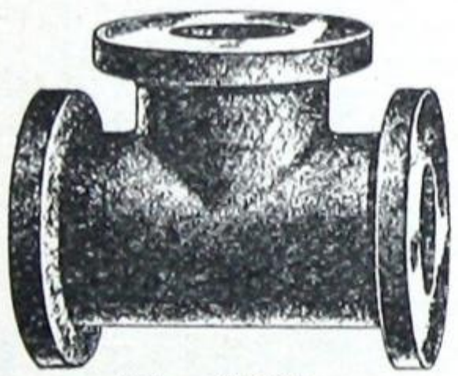


Fig. G628

TEE—Reducing

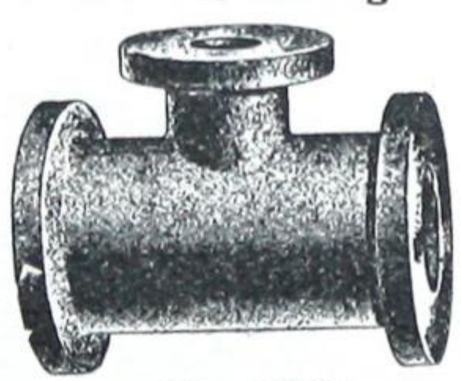


Fig. G629

TEE—Reducing

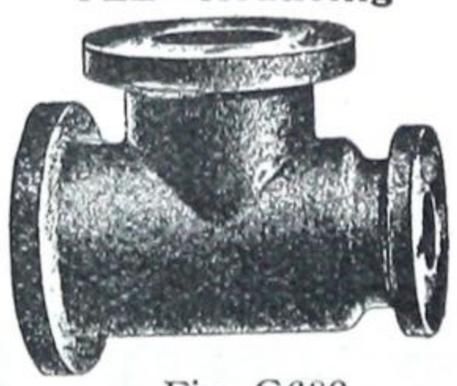


Fig. G630

TEE—Single Sweep

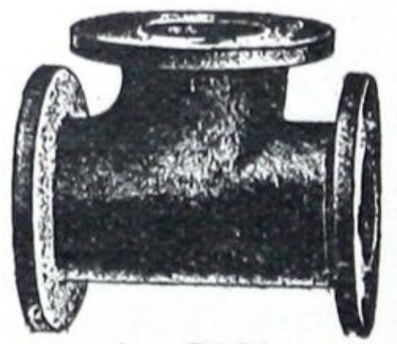


Fig. G631

TEE—Double Sweep

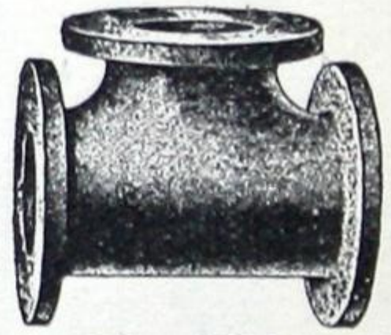


Fig. G632

CROSS

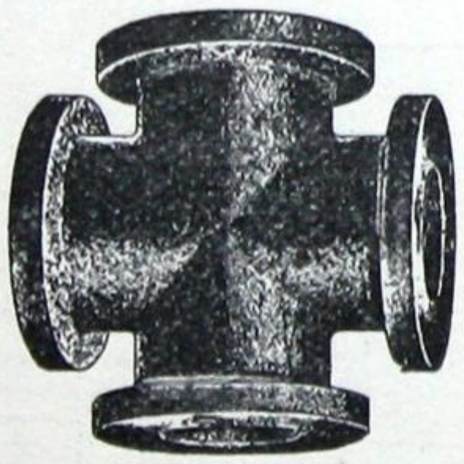


Fig. G633

Y BRANCH



Fig. G634

FLANGE



Fig. G635

SOLID FLANGE



Fig. G636

BASE TEE Flanged



Fig. G641

BASE ELBOW Flanged



Fig. G642

BASE ELBOW Screwed



Fig. G643

Size, Inches	Diam. Flanges, Inches	Diameter Bolt Circle, Inches	No. Bolts	Bolts	
				Diam.	Len.
2	6½	5	4	⅝	2½
2½	7½	5⅞	4	¾	3
3	8¼	6⅝	8	¾	3¼
3½	9	7¼	8	¾	3¼
4	10	7⅞	8	¾	3½
4½	10½	8½	8	¾	3½
5	11	9¼	8	¾	3¾
6	12½	10⅝	12	¾	3¾
7	14	11⅞	12	⅞	4
8	15	13	12	⅞	4¼
9	16¼	14	12	1	4¾
10	17½	15¼	16	1	5
12	20½	17¾	16	1⅛	5½
14	23	20¼	20	1⅛	5¾

CAST IRON FITTINGS—Extra Heavy—Flanged—250 Pounds Working Pressure

Size, Inches	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14
Elbows, Faced only	4.50	4.75	5.15	6.10	6.75	8.25	9.35	11.40	15.75	18.00	25.50	28.50	42.00	62.00
" " and Drilled	5.40	5.65	6.25	7.35	8.25	8.75	10.85	13.40	18.00	20.50	28.85	32.50	46.50	67.50
" Reducing, Faced only	9.00	9.50	10.25	12.25	13.50	16.50	18.75	22.75	31.50	36.00	51.00	57.00	84.00	105.00
" " " and Drilled	9.90	10.40	11.35	13.50	15.00	18.00	20.25	24.75	33.75	38.50	54.35	61.00	88.50	110.50
" Long Radius, Faced only	7.50	8.00	8.60	10.25	11.25	13.75	15.50	19.00	26.50	30.00	42.50	47.75	70.00	103.50
" " " " and Drilled	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00	29.85	33.75	47.50	53.75	76.75	111.75
" 45 Degree Faced only	5.00	5.25	5.65	6.75	7.50	9.00	10.35	12.50	16.50	19.00	26.75	30.00	44.00	62.00
" 45 " " and Drilled	5.90	6.15	6.75	8.00	9.00	10.50	11.85	14.50	18.75	21.50	30.10	34.00	48.50	67.50
Tees, Faced only	6.50	6.90	7.50	8.90	9.75	12.00	13.50	16.50	23.00	26.00	37.00	41.50	61.00	90.00
" " and Drilled	7.85	8.25	9.15	10.80	12.00	14.25	15.75	19.50	26.35	29.75	42.00	47.50	67.75	98.25
" Reducing, Faced only	7.50	8.00	8.60	10.25	11.25	13.75	15.50	19.00	26.50	30.00	42.50	47.75	70.00	103.50
" " " and Drilled	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00	29.85	33.75	47.50	53.75	76.75	111.75
Laterals, Faced only	10.00	10.50	11.50	13.50	15.00	18.00	20.50	25.00	35.00	40.00	56.00	63 00	92.00	136.00
" " and Drilled	11.80	12.30	13.75	16.00	18.00	21.00	23.50	29.00	39.50	45.00	62.75	71.00	101.00	147.00
" Reducing, Faced only	11.50	12.00	13.25	15.50	17.00	21.00	23.50	29.00	40.00	46.00	65.00	72.00	106.00	158.00
" " " and Drilled	13.30	13.80	15.50	18.00	20.00	24.00	26.50	33.00	44.50	51.00	71.75	80.00	115.00	169.00
Crosses, Faced only	10.00	10.50	11.50	13.50	15.00	18.00	20.50	25.00	35.00	40.00	56.00	63.00	92.00	136.00
" " and Drilled	11.80	12.30	13.75	16.00	18.00	21.00	23.50	29.00	39.50	45.00	62.75	71.00	101.00	147.00
" Reducing, Faced only	11.50	12.00	13.25	15.50	17.00	21.00	23.50	29.00	40.00	46.00	65.00	72.00	106.00	158.00
" " " and Drilled	13.30	13.80	15.50	18.50	20.00	24.00	26.50	33.00	44.50	51.00	71.75	80.00	115.00	169.00
Tees, single sweep, Faced only	7.50	8.00	8.60	10.25	11.25	13.75	15.50	19.00	26.50	30.00	42.50	47.75	70.00	103.50
" " " " and Drilled	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00	29.85	33.75	47.50	53.75	76.75	111.75
" " " Reducing, Faced	8.60	9.15	9.90	11.75	13.00	15.75	17.85	22.00	30.50	34.50	49.00	55.00	80.00	119.00
" " " " Faced and Drilled	9.95	10.50	11.55	13.65	15.25	18.00	20.10	25.00	33.85	38.25	54.00	61.00	86.75	127.25
" double sweep, Faced only	7.50	8.00	8.60	10.25	11.25	13.75	15.50	19.00	26.50	30.00	42.50	47.75	70.00	103.50
" " " " and Drilled	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00	29.85	33.75	47.50	53.75	76 75	111.75
" " " Reducing, Faced only	8.60	9.15	9.90	11.75	13.00	15.75	17.85	22.00	30.50	34.50	49.00	55.00	80.00	119.00
" " " " " & Drilled	9.95	10.50	11.55	13.65	15.25	18.00	20 10	25.00	33.85	38.25	54.00	61.00	86.75	127.25
Reducers, Faced only	9.00	9.50	10.25	12.25	13.50	16.50	18.75	22.75	31.50	36.00	51.00	57.00	84.00	105.00
" " and Drilled	9.00	10.40	11.35	13.50	15.00	18.00	20.25	24.75	33.75	38.50	54.35	61.00	88.50	110.50
Flanges, Faced only	1.25	1.40	1.60	2.00	2.25	2.40	2.65	3.30	4.40	5.10	6.30	7.40	10.75	15.00
" " and Drilled	1.60	1.75	2.05	2.55	2.95	3.10	3.35	4.05	5.30	6.15	7.50	8.90	12.50	17.00
Outside Diameter of Reducing and Blind Flanges, inches	6½	7½	8¼	9	10	10½	11	12½	14	15	16¼	17½	20½	23
Reducing Flanges, Faced only	2.10	2.30	2.65	3.30	3.70	4.00	4.40	5.50	7.25	8.40	10.50	12.00	17.50	25.00
" " Faced and Drilled	2.45	2.65	3.10	3.85	4.40	4.70	5.10	6.25	8.15	9.45	11.70	13.50	19.25	27.00
Blind Flanges, Faced only	1.90	2.10	2.40	3.00	3.35	3.60	4.00	5.00	6.60	7.65	9.50	11.00	16.00	22.50
" " " and Drilled	2.25	2.45	2.85	3.55	4.05	4.30	4.70	5.75	7.50	8.70	10.70	12.50	17.75	24.50

All reducing flanges of same outside diameter take same prices.

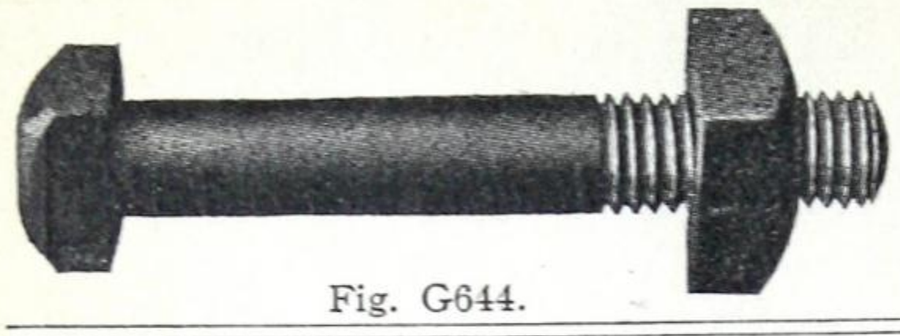


Fig. G644.

MACHINE BOLTS.

MANUFACTURERS' STANDARD LIST.

With Square Heads and Square Nuts.
Finished Point.

PRICE PER 100.

Length in Inches.	⅜	7/16	½	9/16 and ⅝	¾	⅞	1	1⅛	1¼
¾ to 1½	2.40	2.80	3.60	5.20	7.70	10.50	15.10	22.50	30.00
2	2.56	3.00	3.86	5.58	8.25	11.20	16.00	23.70	31.50
2½	2.72	3.20	4.12	5.96	8.80	11.90	16.90	24.90	33.00
3	2.88	3.40	4.38	6.34	9.35	12.60	17.80	26.10	34.50
3½	3.04	3.60	4.64	6.72	9.90	13.30	18.70	27.30	36.00
4	3.20	3.80	4.90	7.10	10.45	14.00	19.60	28.50	37.50
4½	3.36	4.00	5.16	7.48	11.00	14.70	20.50	29.70	39.00
5	3.52	4.20	5.42	7.86	11.55	15.40	21.40	30.90	40.50
5½	3.68	4.40	5.68	8.24	12.10	16.10	22.30	32.10	42.00
6	3.84	4.60	5.94	8.62	12.65	16.80	23.20	33.30	43.50
6½	4.00	4.80	6.20	9.00	13.20	17.50	24.10	34.50	45.00
7	4.16	5.00	6.46	9.38	13.75	18.20	25.00	35.70	46.50
7½	4.32	5.20	6.72	9.76	14.30	18.90	25.90	36.90	48.00
8	4.48	5.40	6.98	10.14	14.85	19.60	26.80	38.10	49.50
9	4.80	5.80	7.50	10.90	15.95	21.00	28.60	40.50	52.50
10	5.12	6.20	8.02	11.66	17.05	22.40	30.40	42.90	55.50
11	5.44	6.60	8.54	12.42	18.15	23.80	32.20	45.30	58.50
12	5.76	7.00	9.06	13.18	19.25	25.20	34.00	47.70	61.50
13	6.08	7.40	9.58	13.94	20.35	26.60	35.80	50.10	64.50
14	6.40	7.80	10.10	14.70	21.45	28.00	37.60	52.50	67.50
15	6.72	8.20	10.62	15.46	22.55	29.40	39.40	54.90	70.50
16	7.04	8.60	11.14	16.22	23.65	30.80	41.20	57.30	73.50
17	7.36	9.00	11.66	16.98	24.75	32.20	43.00	59.70	76.50
18	7.68	9.40	12.18	17.74	25.85	33.60	44.80	62.10	79.50
19	8.00	9.80	12.70	18.50	26.95	35.00	46.60	64.50	82.50
20	8.32	10.20	13.22	19.26	28.05	36.40	48.40	66.90	85.50

The following extras are to be understood as a part of the Machine Bolt list: Bolts with Hexagon Heads or Hexagon Nuts, 10 per cent. extra. If both Hexagon Heads and Hexagon Nuts, 20 per cent. extra.

PRICE BOLTS PER SET FOR ONE JOINT WITH SQUARE HEADS AND HEXAGON NUTS.

FOR STANDARD FLANGES.

SIZE PIPE	2	2½	3	3½	4	4½	5	6	7	8
Diam. Flanges.....inches	6	7	7½	8½	9	9¼	10	11	12½	13½
Bolt Circle..... "	4¾	5½	6	7	7½	7¾	8½	9½	10¾	11¾
Dia. Bolt..... "	⅝	⅝	⅝	⅝	⅝	¾	¾	¾	¾	¾
Length Bolt..... "	2	2¼	2½	2½	2¾	3	3	3	3	3¼
Number of Bolts.....	4	4	4	4	8	8	8	8	8	8
Price.....per Set	.25	.26	.26	.26	.56	.82	.82	.82	.82	.82

SIZE PIPE	9	10	12	14	15	16	18	20	22	24
Diam. Flanges.....inches	15	16	19	21	22¼	23½	25	27½	29½	32
Bolt Circle..... "	13¼	14¼	17	18¾	20	21¼	22¾	25	27¼	29½
Dia. Bolt..... "	¾	⅞	⅞	1	1	1	1⅛	1⅛	1¼	1¼
Length Bolt..... "	3¼	3½	3¾	4¼	4¼	4¼	4¾	5	5½	5½
Number of Bolts.....	12	12	12	12	16	16	16	20	20	20
Price.....Per set	1.23	1.76	1.85	2.70	3.61	3.61	5.44	6.80	9.24	9.24

FOR EXTRA HEAVY FLANGES.

SIZE PIPE	2	2½	3	3½	4	4½	5	6	7	8
Dia. Flanges.....inches	6½	7½	8¼	9	10	10½	11	12½	14	15
Dia. Bolt Circle..... "	5	5⅞	6⅝	7¼	7⅞	8½	9¼	10⅝	11⅞	13
Dia. Bolt..... "	⅝	¾	¾	¾	¾	¾	¾	¾	⅞	⅞
Length Bolt..... "	2½	3	3¼	3¼	3½	3½	3¾	3¾	4	4¼
Number of Bolts.....	4	4	8	8	8	8	8	12	12	12
Price.....per Set	.26	.41	.87	.87	.87	.87	.92	1.38	1.85	1.94

SIZE PIPE	9	10	12	14	15	16	18	20	22	24
Dia. Flanges.....inches	16¼	17½	20½	23	24½	25½	28	30½	33	36
Dia. Bolt Circle..... "	14	15¼	17¾	20¼	21½	22½	24¾	27	29	32
Dia. Bolt..... "	1	1	1⅛	1⅛	1¼	1¼	1¼	1⅜	1½	1⅝
Length Bolt..... "	4¾	5	5½	5¾	6	6	6¼	6¼	7	7½
Number of Bolts.....	12	16	16	20	20	20	24	24	24	24
Price.....per Set	2.82	3.77	5.64	7.33	9.57	9.57	11.88	17.50	17.95	36.60

CAST IRON CAR HEATER FITTINGS.

EXTRA HEAVY.

ELBOW.

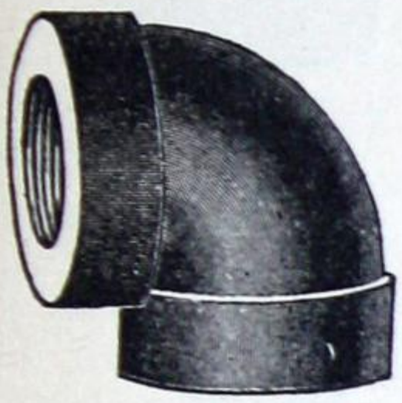


Fig. G645.

45° ELBOW.



Fig. G646.

TEE.

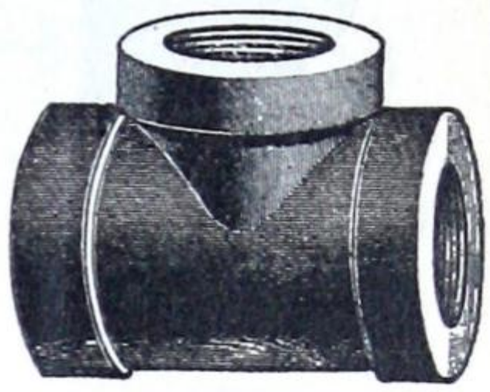


Fig. G647.

COUPLING.
Right Hand.



Fig. G648.

COUPLING.
Right and Left.



Fig. G649.

RETURN BEND.
Close.



Fig. G650.

SIZE, INCHES.		¾	1	1¼	1½	2
Elbows	Each	.25	.27	.30	.45	.55
" Reducing	"	....	....	.45	....	....
45 Degree Elbows	"	....	....	.40	.55	.70
30 " "	"	....	....	....	.55	....
Tees	"	....	.45	.45	.65	....
" Reducing	"	....	....	.45	....	.85
Couplings, R. H	"	....	.25	.30	.45	.55
" R. & L	"	....	.35	.40	.55	.65

RETURN BENDS.

SIZE.	Centre to Centre.	Right Hand.	Right and Left.
1¼	2½	.45	.45
1¼	3	.50	.50
1½	3	.75	.75

ELBOW



Fig. G651

CAST IRON FITTINGS.

EXTRA HEAVY—SCREWED.

Tested to 800 pounds.

Suitable for Steam Working Pressure of 250 Pounds.

45° ELBOW



Fig. G652

TEE



Fig. G653

TEE-Reducing

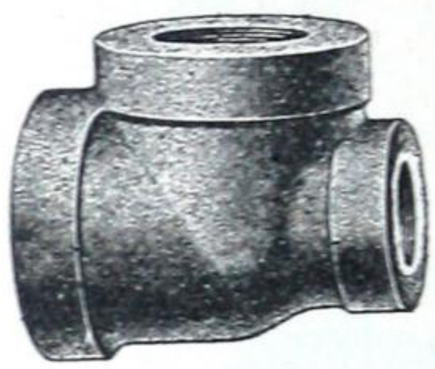


Fig. G654

CROSS



Fig. G655

Y BEND



Fig. G656

FLANGE UNION

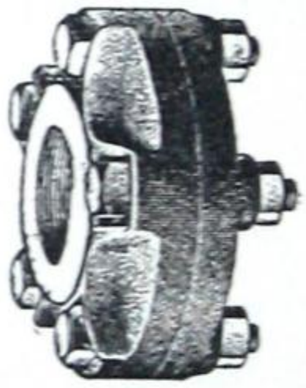


Fig. G657

COUPLING
Right and Left.



Fig. G658

Size, Inches.....	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	10	12
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbows.....Each	.25	.30	.35	.45	.60	.75	1.25	2.00	2.75	3.50	4.25	5.50	8.00	12.00	17.00	28.00	40.00
" Reducing "	....	.40	.45	.55	.75	.95	1.55	2.50	....	4.40	....	6.80	.....	.....	.....	.....	.....
45 deg. Elbows.. "	.35	.40	.44	.55	.70	.90	1.50	2.50	3.50	4.50	5.50	6.75	9.75	14.50	21.00	34.00	48.00
Tees..... "	.40	.45	.55	.70	.90	1.15	1.80	3.00	4.25	5.50	6.75	8.25	12.00	18.00	25.00	42.00	60.00
Reducing Tees.. "	....	.60	.70	.90	1.15	1.40	2.25	3.75	5.30	6.85	8.50	10.25	15.00	22.50	31.00	52.00	75.00
Crosses..... "	.60	.65	.70	.90	1.20	1.50	2.50	4.00	5.50	7.00	8.50	11.00	16.00	24.00	34.00	56.00	80.00
Y Bends..... "	....	....	....	1.35	1.80	2.25	3.75	6.00	....	11.00	....	.....	.....	.....	.....	.....	.....
Flange Unions... "	.60	.70	.80	1.00	1.15	1.50	1.90	2.25	2.70	3.15	4.00	4.75	6.00	8.25	10.50	17.25	24.00
Coupling, R.&L. "	.35	.40	.50	.65	....	....	....	....	....	.....	....	.....	.....	.....	.....	.....	.....

Galvanized Extra Heavy Fittings, double above list.

MALLEABLE IRON FITTINGS.

EXTRA HEAVY HYDRAULIC—SCREWED.

Suitable for the following Working Water Pressures.

¼" to 1".....2,000 lbs.
1¼" to 2".....1,500 lbs.
2½" to 4".....1,000 lbs.
5" to 6"..... 800 lbs.

ELBOW

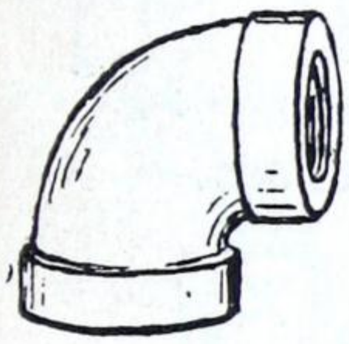


Fig. G661

ELBOW 45°



Fig. G662

ELBOW—Long Sweep

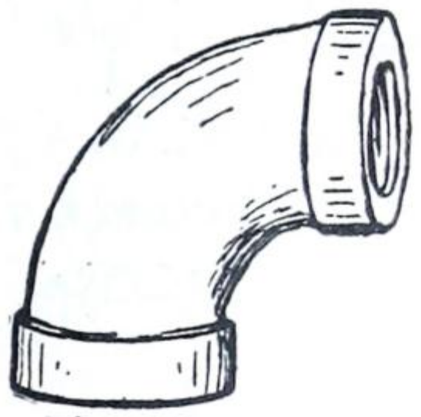


Fig. G663

TEE

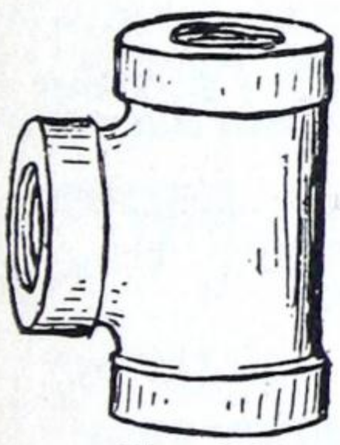


Fig. G664

CROSS

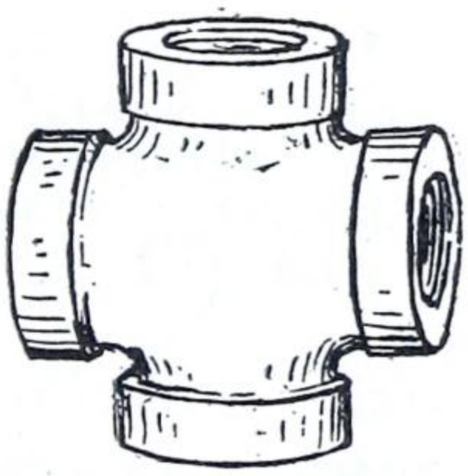


Fig. G665

FLANGE UNION

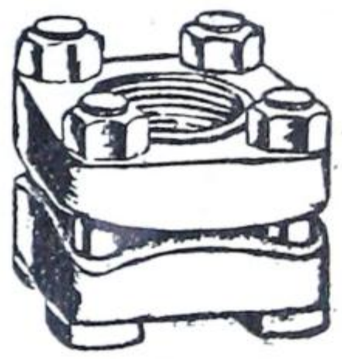


Fig. G666

Size, inches.....	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Elbows.....Each	.20	.25	.30	.35	.40	.55	.70	.90	1.50	2.40	3.25	4.25	6.50	9.50
Elbows, 45 degrees..... "	.25	.30	.35	.42	.50	.65	.85	1.10	1.85	2.85	4.00	5.00	7.50	10.50
Elbows, Long Sweep... "	.....	.....	.....	.....	.64	.80	1.10	1.60	2.40	4.50	6.50	7.00	13.00	17.50
Tees..... "	.30	.40	.45	.50	.60	.80	1.05	1.35	2.25	3.60	5.00	6.50	9.75	14.25
Crosses..... "	.60	.80	.90	1.00	1.20	1.60	2.10	2.70	4.50	7.20	10.00	13.00	19.50	28.50
Flange Unions..... "	1.35	1.35	1.50	1.50	1.50	1.75	2.25	3.00	6.00	9.00	11.50	14.00	.....	.....

Straight sizes only of above fittings carried in stock.

CAST IRON SOIL PIPE AND FITTINGS.

SOIL PIPE—Single Hub.

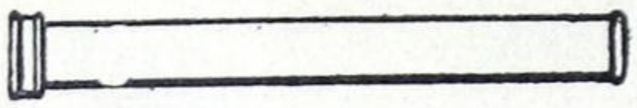


Fig. G701.

SOIL PIPE—Double Hub.

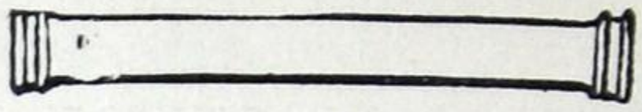


Fig. G702

¼ BEND.



Fig. G703

⅕ BEND.



Fig. G704

⅙ BEND.



Fig. G705

⅛ BEND.



Fig. G706

1/16 BEND.



Fig. G707

½ BEND. Branch on Heel.



Fig. G708

¼ BEND. Br'ch R.H.



Fig. G709

¼ BEND. Dble. Hub.



Fig. G710

TEE.



Fig. G716

Y.



Fig. G717

½ Y.



Fig. G718

T.Y.



Fig. G719

Y. Branch R.H.



Fig. G720

T.Y. Branch L.H.



Fig. G721

DOUBLE Y.



Fig. G726

DOUBLE ½ Y.



Fig. G727

DOUBLE T.Y.



Fig. G728

CROSS.



Fig. G729

SINGLE HUB.



Fig. G731

DOUBLE HUB.



Fig. G732

SLEEVE.



Fig. G733

THIMBLE.



Fig. G734

REDUCER.



Fig. G735

INCREASER.



Fig. G736

PLUG.



Fig. G737

S. TRAP.



Fig. G741

S. TRAP. with Hand Hole



Fig. G742

P. TRAP.



Fig. G743

P. TRAP. with Hand Hole.



Fig. G744

¾ S. TRAP.



Fig. G745

¾ S. TRAP with Hand Hole.



Fig. G746

RUNNING TRAP.

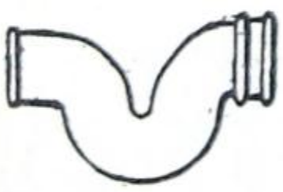


Fig. G747

RUNNING TRAP. with Hand Hole.



Fig. G748

RUNNING TRAP with Hub Vent.



Fig. G749

RUNNING TRAP with Double Hub Vent.

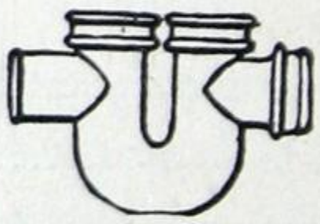


Fig. G750

INVERTED Y.



Fig. G756

VENT.



Fig. G757

VENT CAP.



Fig. G758

VENT CAP Patent.



Fig. G759

RETURN BEND.



Fig. G760

TAPPED TEE.



Fig. G766

TAPPED CROSS.



Fig. G767

TAPPED VENT.



Fig. G768

CAST IRON SOIL PIPE AND FITTINGS.

SIZES	Inches.	2	3	4	5	6	8
Soil Pipe, Light	per foot.	$ .26	$ .32	$ .42	$ .60	$ .75	....
Medium	" "	.32	.50	.68	.90	1.05	....
Extra Heavy	" "	.40	.65	.85	1.15	1.35	2.25
Double Hub Pipe, Light	" Length	1.60	1.90	2.40	3.50	4.50	....
Medium	" "	1.90	2.80	3.70	5.00	6.00	....
Extra Heavy	" "	2.30	3.55	4.55	6.25	7.50	12.75
4th, 5th, 6th, 8th, 12th and 16th Bends — Light	each.	.45	.70	1.00	1.75	2.25	....
Medium	"	.55	.85	1.15	2.00	2.75	....
Extra Heavy	"	.65	1.00	1.30	2.20	3.25	5.00
T's, Y's, ½ Y's, T.Y's. Light	each.	.70	1.25	1.75	2.25	3.50	....
Medium	"	.85	1.45	2.10	2.80	4.00	....
Extra Heavy	"	1.00	1.65	2.40	3.30	4.50	9.00
Dbl. Y's, ½ Y's, T.Y's and Crosses — Light	each.	1.40	2.05	2.60	3.35	5.25	....
Medium	"	1.70	2.40	3.10	3.90	6.00	....
Extra Heavy	"	2.00	2.75	3.60	4.45	6.75	13.50
Single & Double Hubs, Straight Sleeves And Thimbles, Light	each.	.35	.60	.75	1.00	1.25	....
Medium	"	.45	.70	.85	1.20	1.45	....
Extra Heavy	"	.50	.80	.95	1.35	1.60	3.50
Thimbles with Covers, 60c. extra.							
Reducers and Increasers, Light	each.	....	.70	.90	1.15	1.25	....
Medium	"	....	.85	1.10	1.45	1 75	....
Ex. Heavy	"	....	1.00	1.25	1.75	2.25	....
Reducers	" "	....	....	....	....	....	4.25
Increasers	" "	....	....	....	....	....	5.00
Stoppers or Plugs, Light	each.	.15	.25	.30	.40	.50	....
Medium	"	.20	.30	.40	.60	.75	....
Extra Heavy	"	.25	.35	.50	.75	1.00	1.50
S. P. ¾ S. & Running Traps, Plain — Light	each.	.90	1.50	2.00	3.75	5.00	....
Medium	"	1.15	1.90	2.50	4.25	6.00	....
Ex. Heavy	"	1.35	2.25	3.00	4.75	7.00	13.00
Running Traps with Double Hub Vent — Light	each.	....	....	5.00	....	....	....
Medium	"	3.15	4.40	5.50	7.25	9.00	....
Ex. Heavy	"	3.65	4.90	6.00	7.75	10.00	16.00
Inverted Y Branch, Vent " Light	each.	1.00	1.50	2.00	2.50	3.25	....
Medium	"	1.25	1.75	2.25	3.00	3.90	....
Ex. Heavy	"	1.50	2.00	2.50	3.50	4.50	9.00
Vent Caps, Light	each.	.60	.80	1.25	2.50	3.50	....
Medium	"	.70	.90	1.50	3.20	4.40	....
Extra Heavy	"	.80	1.00	1.75	3.75	5.25	....
Patent	"	....	....	.75	....	....	....
Return Bends, Light	each.	.80	1.55	2.15	3.15	3.75	....
Medium	"	.95	1.70	2.40	3.65	4.50	....
Extra Heavy	"	1.05	1.80	2.65	4.15	5.25	....
Tapped Tees, Light	each.	1.45	1.80	2.30			
Y.& T Y's Medium	"	1.60	2.00	2.60			
Extra Heavy	"	1.75	2.20	2.95			
Medium, 4 x 18"	"	....	....	5.00			
Tapped Crosses, Light	each.	2.40	2.85	3.40			
Medium	"	2.70	3.20	3.90			
Extra Heavy	"	3.00	3.55	4.40			
Tapped Vent Branches, Light	each.	1.75	2.05	2.55			
Medium	"	2.00	2.30	2.80			
Extra Heavy	"	2.25	2.55	3.05			

Note.—Reducing and straight fittings are on same list.

Connections Right and Left are called as shown on page opposite.

For weight of Pipe and Fittings, see page 93.

Fittings with Double Hubs, add 30c. to List. Fittings with 2" Inlets, Hand Holes and Hub Vents, add $1.00.
Fittings with 2" Y Inlets, add $2.00.

CAST IRON SOIL PIPE AND FITTINGS.

TO OFFSET INCHES.		2	4	6	8	10	12	14	16
	Size 2″ Light.....each.	$ .75	$ .85	$1.00	$1.15	$1.35	$1.50	....	....
	Medium..... "	.95	1.10	1.25	1.40	1.60	1.75	....	....
	Ex. Heavy... "	1.15	1.35	1.50	1.65	1.80	1.95	....	....
OFFSETS.	3″ Light.....each.	....	1.35	1.50	1.65	1.90	2.10	....	....
	Medium..... "	....	1.60	1.75	1.95	2.20	2.40	....	3.50
	Ex. Heavy.. "	....	1.85	2.00	2.25	2.50	2.70	....	3.80
	4″ Light.....each.	....	1.50	1.70	1.95	2.20	2.45	3.15	3.50
	Medium..... "	....	1.80	2.05	2.35	2.60	2.95	3.80	4.20
	Ex. Heavy.. "	....	2.10	2.40	2.70	3.00	3.40	4.45	4.85
	5″ Light.....each.	....	3.40	3.80	4.20	4.60	5.00	5.50	6.00
	Medium..... "	....	3.95	4.40	4.85	5.30	5.75	6.25	6.75
	Ex. Heavy... "	....	4.50	5.00	5.50	6.00	6.50	7 00	7 50
	6″ Light.....each.	....	4.00	4.50	5.00	5.50	6.00	6.50	7.50
	Medium..... "	....	5.00	5.50	6.00	6.50	7 00	7.75	8.90
	Ex. Heavy.. "	....	6.00	6.50	7.00	7.50	8.00	9.00	10.25



Fig. G771.

TO OFFSET INCHES.	18	20	22	24
Size 4″ Light.....each.	3.95	4.40	4.85	5.20
Medium..... "	4.80	5.45	6.35	7.00
Ex. Heavy..... "	5.65	6.50	7.85	8.75

EXTRA LONG.

¼ BEND

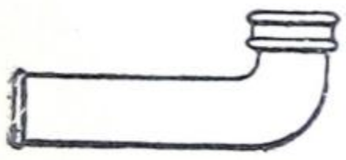


Fig. G776

TEE



Fig. G777

Y

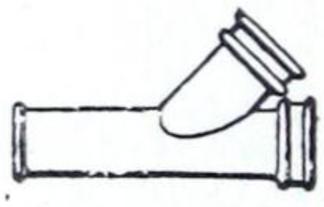


Fig. G778

½Y

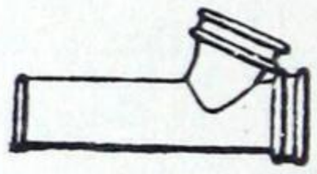


Fig. G779

TY

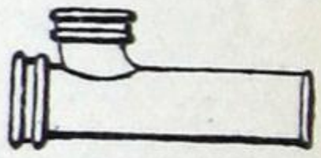


Fig. G780

LENGTH IN CLEAR INCHES.		10	12	15	18	20	24	30	36
Long ¼ Bends, Size 4″	Light.....each.	....	$2.25	....	$2.75	....	$3.50	....	....
Long ⅛ Bends,	Medium..... "	$2.75	2.90	$3.25	3.50	$3.80	4.40	$5.00	$6.00
	Ex. Heavy..... "	....	3.50	....	4.25	....	5.25	8.00	....
Long T's, Y's,	" 4″ Light.....each.	....	....	....	3.50	....	4.25	5.00	5.75
½ Y's & T.Y's.	Medium..... "	....	....	....	4.45	....	5.20	5.95	6.70
	Ex. Heavy..... "	....	....	....	5.35	....	6.10	6.85	7.60
	" 5″ Light.....each.	....	....	....	4.75	....	5.75	6.75	7.75
	Medium..... "	....	....	....	5.95	....	6.95	7.95	8.95
	Ex. Heavy..... "	....	....	....	7.10	....	8.10	9.10	10.10
	" 6″ Light.....each.	....	....	....	6.75	....	7.75	8.75	9.75
	Medium..... "	....	....	....	7.75	....	8.75	9.75	10.75
	Ex. Heavy..... "	....	....	....	8.75	....	9.75	10.75	11.75

Fittings with Double Hubs, add 30c to List. Fittings with 2″ Inlets, Hand Holes and Hub Vents, add $1.00.
Fittings with 2″ Y Inlets, add $2.00.

CAST IRON SOIL PIPE AND FITTINGS.

COMBINATION "Y" AND 8th BENDS.

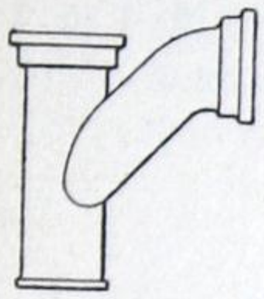


Fig. G772.

Size.	Medium.
4 x 4 inch.....	$3.75
4 x 4 " x 30" long	8.15
4 x 4 " x 36" "	9.15

UPRIGHT "Y" BRANCH.

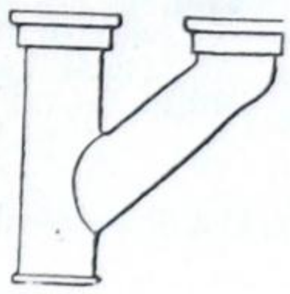


Fig. G773.

Size.	Medium.
4 x 4".....	$3.75

RUNNING TRAP, WITH "Y" BRANCH & VENT.

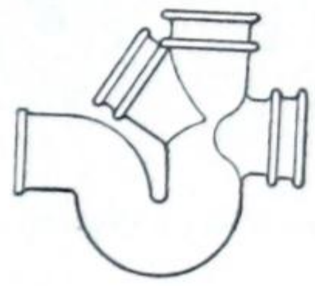


Fig. G774.

Size.	Medium.
2 inch with 2" Vent..	$3.10
3 " " 2" " ..	4.15
4 " " 4" " ..	5.50

APPROXIMATE WEIGHT IN POUNDS

SIZE Inches	2			3			4			5			6			8
	Std.	Med.	Hy.	Std.	Med.	Hy.	Std.	Med.	Hy.	Std.	Med.	Hy.	Std.	Med.	Hy.	Hy.
Pipe, 5 ft. len.....per len.	17½	20	27½	22½	32½	47½	32½	45	65	42½	65	85	52	75	100	170
" Dbl. Hub..... "	....	22½	30	....	35	50	....	49	70	....	70	90	....	80	105	....
¼ Bends.....each.	3½	4	6	6	7	8	8	10	13	12	14	18	16	19	25	45
⅙ " ..... "	3	4	5	5	6	7	7	9	11	10	12	15	13	15	20	40
⅛ " ..... "	3	4	5	5	6	7	7	9	11	9	11	13	11	14	17	40
1/16 " ..... "	2½	3½	4½	4	5	6	6	8	10	8	10	12	10	13	16	36
Tees..... "	4	5½	8	8	10½	13	11	15	20	16	20	25	21	27	33	52
Y's..... "	5	7½	10	9	12	15	13	18	24	22	27	32	26	34	42	85
½ Y's and T.Y's..... "	5	7	9	7	10	14	10	14	18	15	20	25	22	28	32	70
Crosses..... "	6	8	10	10	14	18	12	18	24	20	26	32	25	35	45	80
Double Y's..... "	8	10	12	11	15	20	18	24	30	28	34	40	37	46	55	75
Double ½ Y's and T.Y's..... "	7	9	11	10½	14½	19	15	21	28	24	30	36	30	40	50	78
Double Hubs..... "	3	4	5	4	5½	7	6	7	8	8	9	11	10	12	14	28
Straight Sleeves..... "	3	4	5	4	5	6	5	6	7	7	8½	10	8	10	12	24
Reducers..... "	....	....	....	3	4	5	4	5	6	6	7½	9	9	10	11	15
Traps..... "	6	8	10	12	15	19	24	27	30	28	36	45	38	50	65	100
Offsets to offset 12"..... "	6	8½	11	10	14	18	15	19	23	20	25	30	26	33	40	....
Add or deduct for every 2" Pipe, per Foot without Hub.....	½	¾	1	¾	1	1½	1	1½	2	1½		3	2	2½	3½	
Hubs only.....each.	1¼	3¾	5	4	6	9	6	8¼	12¼	7¾	12¼	16	9½	14	18½	31½
	1½	2	2½	2	2¾	3½	3	3½	4	4	4½	5½	5	6	7	12

The Weights above are taken from different manufacturers' lists and are a fair average.

TEE.



Fig. G781

½ Y.



Fig. G782

Y.



Fig. G783

CONNOLLY SADDLE HUBS.

Size..Inches	2	3	4	5	6
Tee.....each.	.95	1.00	1.10	1.25	1.40
½ Y or Y..... "	1.00	1.10	1.15	1.30	1.55

The Run of Pipe to which Saddle fits gives the Size—Made in Medium only.



Fig. G786

SISSONS INSERTABLE JOINT, with Lead Ring.

Size	2"	3"	4"	5"	6"
Each	$1.40	1.50	1.80	2.10	2.60

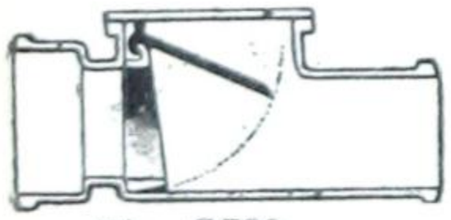


Fig. G789

PALMER SEWER TRAP.

Size.....Inches	2	3	4	5	6	8
Each.....	$6.00	6.50	7.50	9.00	10.00	15.00

BELL TRAP CESSPOOL.
Heavy.



Fig. G791
Size 16" x 16". Each, $4.50

BELL TRAP CESSPOOL.



Fig. G792

Size 13 x 13..... each $2.00
9 x 9..... " 1.00
6 x 6..... " .75

ROUND HAND HOLE CLEANOUT



Fig. G787

SQUARE HAND HOLE CLEANOUT

Fig. G788 

Size.	Inches	2	3	4	5	6
Round Hand Hole Cleanout.	Each	.75	1.00	1.40	1.80	2.20
Square " " "	"	4.00	4.50	5.00	8.00	10.00

SOIL PIPE GRATES.

Solid

Fig. G796. 

Size	Inches	2	3	4	5	6
Solid Grates	Each	.40	.45	.50	.75	1.00
Grates with Feet	"	.40	.45	.50	.75	1.00

With Feet

 Fig. G798.

SOIL PIPE HOOK.



Fig. G793

SOIL PIPE STRAPS.

Straight.



Fig. G794

Corner.



Fig. G795

SOIL PIPE TEST PLUGS.

Single.

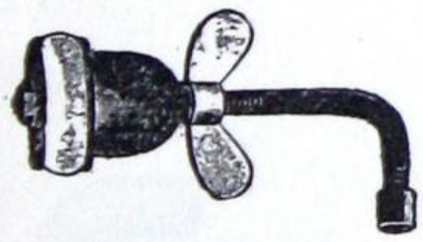


Fig. G799

Double.



Fig. G800

SIZE		2	3	4	5	6
Test Plugs, Single	each	$1.00	1.25	1.50	2.00	2.50
" " Double	"	5.00	7.00	9.00	12.00	15.00
Extra Rubbers	"	.25	.50	.70	.90	1.25
Hooks	per 100	3.00	4.50	6.00	7.50	9.00
Straps, Straight	"	4.25	5.50	6.75	7.50	9.25
" Corner	"	3.75	5.00	6.50	7.25	9.00

"TRI-ONE" ADJUSTABLE SINK TRAPS.

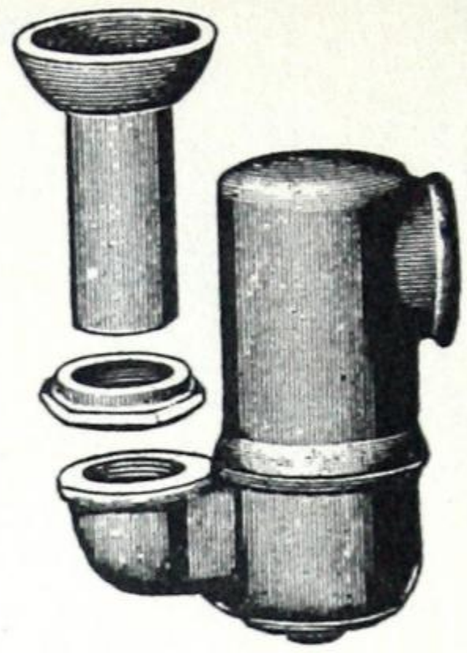


Fig. G784a.

	Aluminized Bronze.	Galvanized
1½" Adjustable Half "S" Sink Trap, with Nut and Connection Tapped for Iron Pipe	$4.00	$4.80

BOTTLE TRAP With Brass Cleanout Plug.



Fig. G784.

DIAMOND TRAPS—Cast Iron.

	PAINTED	
Threaded Iron Pipe	1¼"	1½"
Each	1.00	1.50

"S" TRAP With Sink Collar

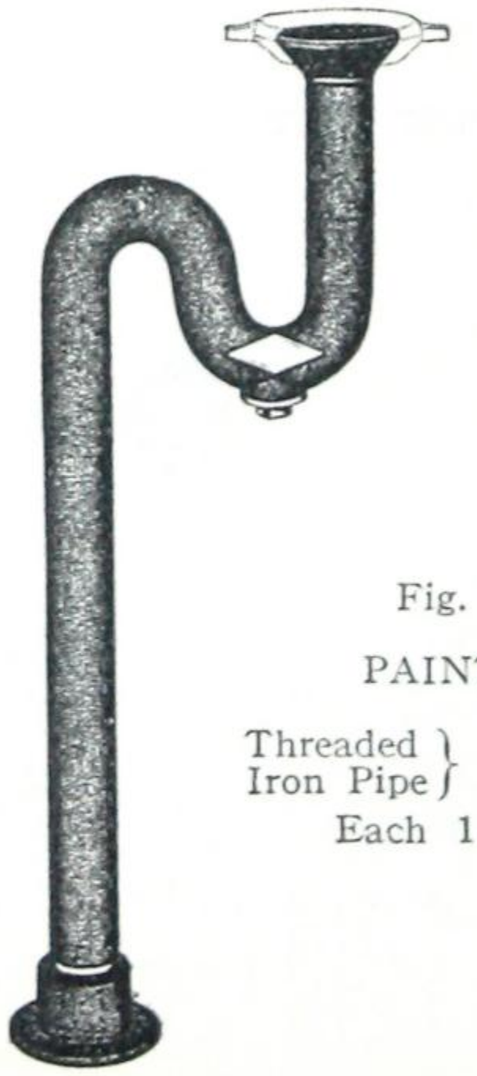


Fig. G790b.

	PAINTED	
Threaded Iron Pipe	1¼"	1½"
Each	1.50	2.00

"P" TRAP With Sink Collar

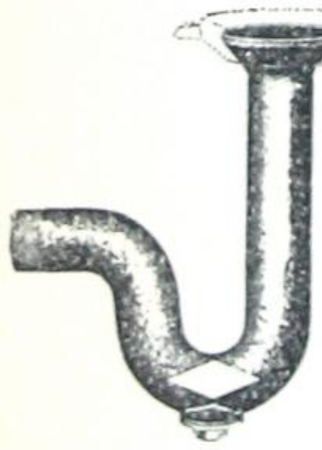


Fig. G790

	PAINTED	
Threaded Iron Pipe	1¼"	1½"
Each	.75	1.00

DRUM TRAP With Nickel Plated Brass Projecting Flange Cover.

	PAINTED
	4" x 8"
Threaded Iron Pipe	1½"
Price Each	4.00

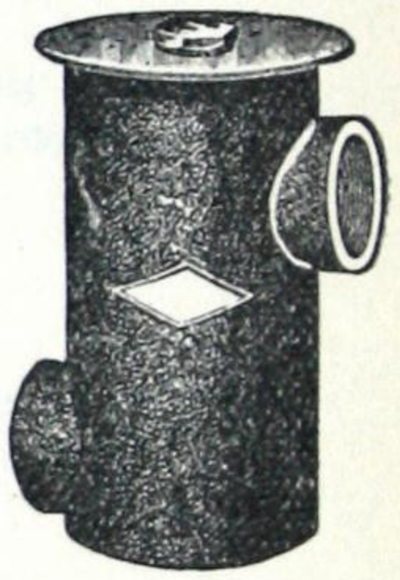


Fig. G785.

"P" TRAP With Slip Joint

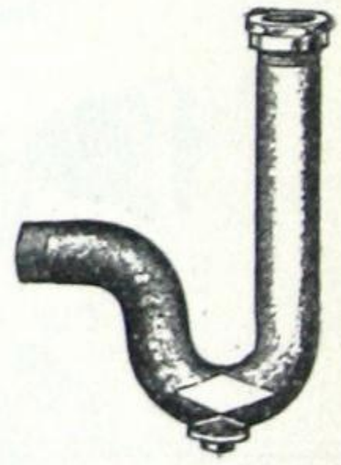


Fig. G790a.

	PAINTED With Nickel Plated Slip Joint	
Threaded Iron Pipe	1¼"	1½"
Each	1.00	1.30

McGUIRE ROOF FLANGES.

Galvanized.

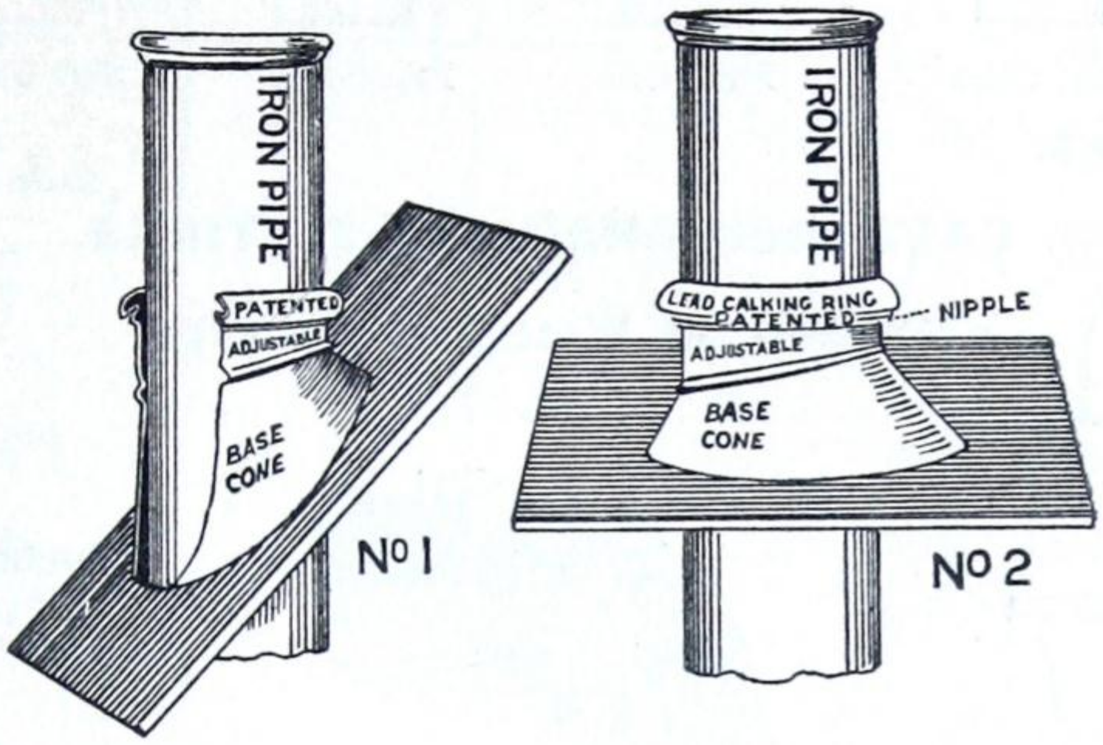


Fig. G797a. Fig. G797b.

SIZE.....	2	3	4	5	6
Price, each.....	$1.00	$1.10	$1.20	$1.70	$3.00

McGuire Roof Flanges No. 2, from Flat to ⅓ Pitch, and No. 1, ¼ to ½ Pitch.

DEHN'S ACME ONE-PIECE FLOOR DRAIN.

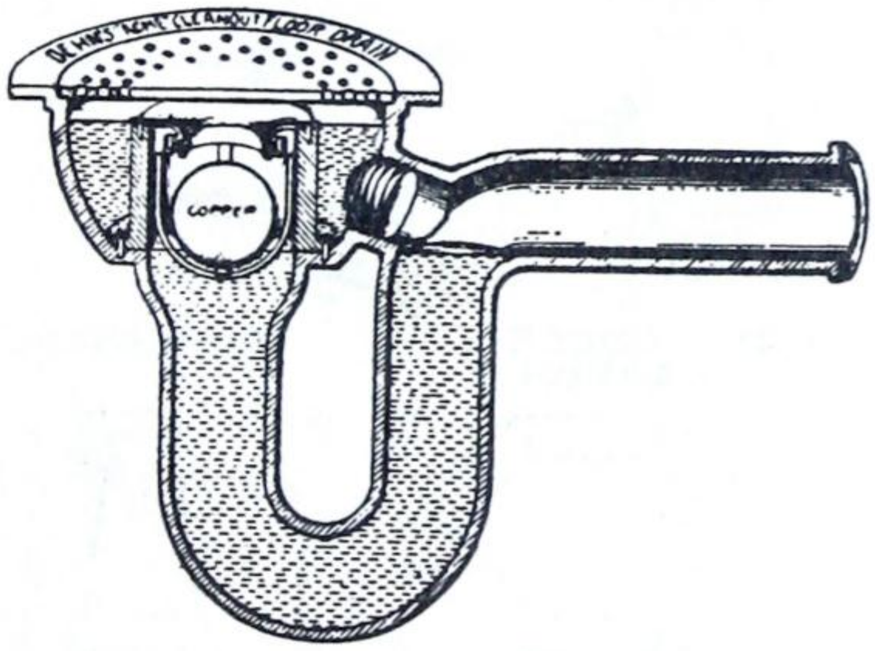


Fig. G797c.

Size of Outlets.....	Inches	2	3	4
Water Seal.....	"	4	4	4
Size of Brass Clean Out Plugs.....	"	1½	1½	1½
Diameter of Top.....	"	9	10	12
Length over all.....	"	18	20	24
Receiver Above Outlet.....	"	2	2	2
Approximate Weight.....	Pounds	30	40	65
Fig. G797c. Iron Top and Strainer.....	Each	$ 7.50	$10.00	$14.00
" " Brass finished Top and Strainer.....	"	13.50	17.00	22.00
" " Brass N. P " "	"	15.50	19.00	25.00

ELBOWS.

90°



Fig. G801

60°



Fig. G802

45°



Fig. G803

22½°



Fig. G804

11¼°



Fig. G805

5⅝°



Fig. G806

LONG TURN ELBOWS.

90°

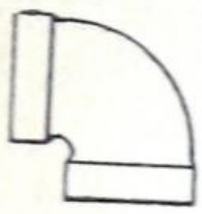


Fig. G807

45°



Fig. G808

CAST IRON DRAINAGE FITTINGS.

Screwed for Wrought Iron Pipe.

90° ELBOWS.
Side outlet. Heel outlet.



Fig. 809

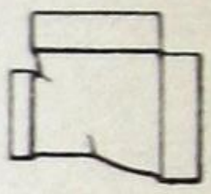


Fig. G810

ELBOWS.

3-Way.

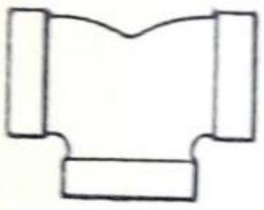
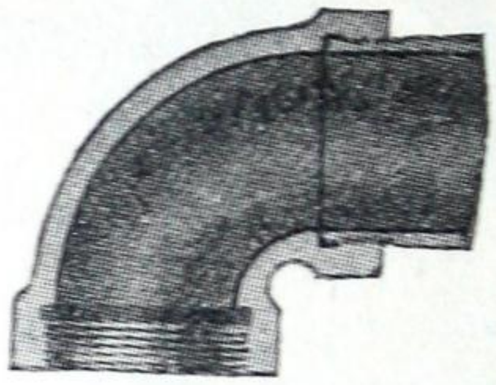


Fig. G811

Closet.



Fig. G812



CLOSET.
Reducing Elbow. Flanges.



Fig. G813



Fig. G814

TEE.

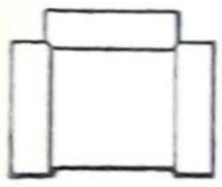


Fig. G815

BASIN TEE.

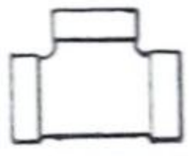


Fig. G816

BASIN CROSS.

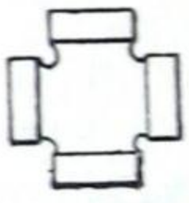


Fig. G817

90° Y BRANCH.

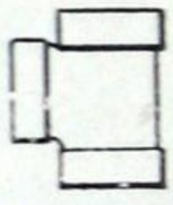


Fig. G818

90° DOUBLE Y BRANCH.

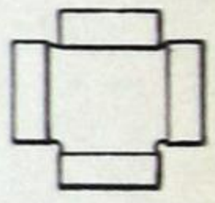


Fig. G819

90° LONG TURN Y BRANCH.

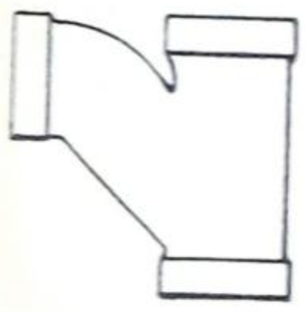


Fig. G820

LONG TURN 90° Y BRANCHES, With Auxiliary Inlets.



Fig. G821

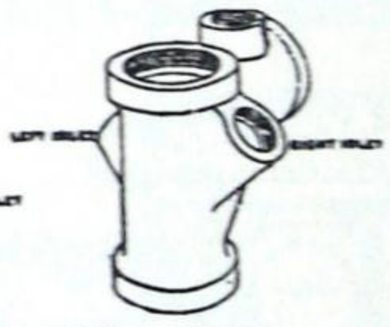


Fig. G822

DOUBLE 90° LONG TURN Y BRANCH.

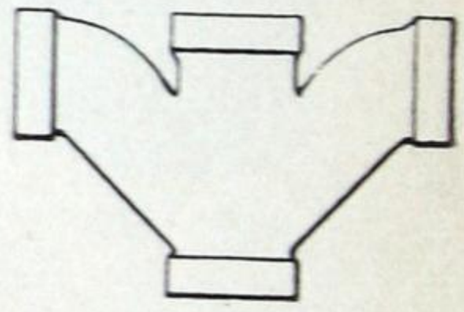


Fig G823

45° BRANCH.

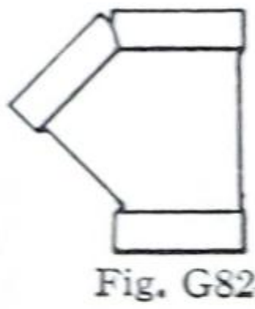


Fig. G824

45° DOUBLE Y BRANCH.

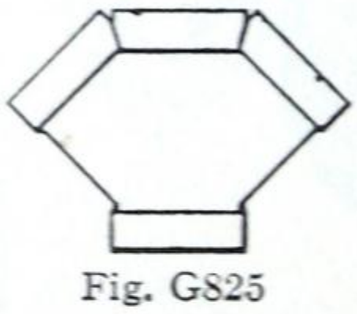


Fig. G825

INCREASER.



Fig. G826

BRASS SOLDERING NIPPLE.



Fig. G828

S. TRAP.

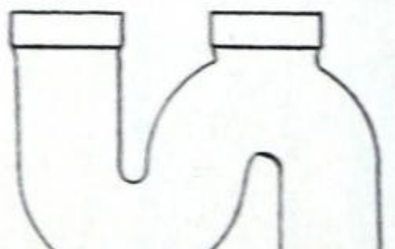


Fig. G829

½ S TRAP.

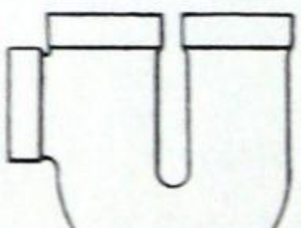


Fig. G830

RUNNING TRAP.

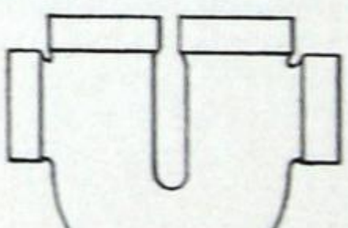


Fig. G831

OFFSET.

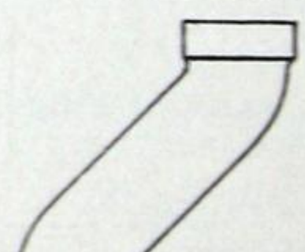


Fig. G832

DRAINAGE FITTINGS.
Galvanized Cast Iron Screwed for Wrought Iron Pipe.

SIZE Inches	1	1¼	1½	2	2½	3	4	5	6	7	8	10	12
90° Elbows.....each. } 60°, 45°, 22½°..... " } 11¼°, 5⅝° Elbows..... " }	....	.52	.67	1.00	2.10	2.55	4.00	7.40	11.00	20.00	26.25	54.00	83.00
90° Long Turn Elbows..... "	....	.60	.72	1.15	2.45	3.10	4.80	9.20	13.15	23.50	33.25	66.50	100.00
45° " " " " .... "	....	.....	.72	1.15	2.45	3.10	4.80	9.20	13.15	23.50	33.25	66.50	100.00
90° Elbows, with Side outlet "	....	.....	.....	.....	.....	.....	6.75	.....	.....	.....	.....	.....	.....
90° " " Heel.. "	....	.....	.....	.....	.....	.....	6.75	.....	.....	.....	.....	.....	.....
Three Way Elbows..... "	....	1.25	1.50	1.95	3.90	5.25	8.75	13.15	23.50	.....	.....	.....	.....
" " " Reducing "	....	.....	.....	.....	.....	.....	9.65	14.50	26.25	.....	.....	.....	.....
Closet Elbows..... "	....	.....	.....	.....	.....	.....	7.40	.....	.....	.....	.....	.....	.....
" " Reducing.. "	....	.....	.....	.....	.....	.....	.....	7.40	.....	.....	.....	.....	.....
Closet Flanges, Plain..... "	....	.....	.....	.....	.....	.....	2.35	.....	.....	.....	.....	.....	.....
" " Recessed for Asbestos Packing... "	....	.....	.....	.....	.....	.....	2.35	.....	.....	.....	.....	.....	.....
Brass Closet Flanges..... "	....	.....	.....	.....	.....	.....	7.00	.....	.....	.....	.....	.....	.....
Tees..... "	....	.....	1.00	1.40	2.50	3.50	5.70	10.50	15.25	28.00	37.00	75.00	100.00
" Reducing..... "	....	.....	.....	1.60	2.75	3.85	6.30	11.55	.....	.....	.....	.....	110.00
Basin Tees..... "	....	1.00	1.22	1.95	3.00	.....	.....	.....	.....	.....	.....	.....	.....
" " Reducing..... "	....	.....	1.35	2.10	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Crosses..... "	....	.....	2.50	3.10	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " Reducing... "	....	.....	.....	3.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
90° Y Branches, Tee Pattern "	.70	.80	1.00	1.50	3.15	3.85	6.15	11.35	16.50	30.50	40.00	82.00	.....
" " " "Reducing "	....	.90	1.10	1.65	3.50	4.20	6.75	12.50	18.50	.....	44.50	.....	.....
" " " "Long Turn "	....	1.00	1.22	1.95	4.20	5.85	10.50	16.50	35.00	52.50	70.00	.....	.....
" " " " " Red. "	....	1.10	1.40	2.10	4.65	6.55	11.55	18.50	38.50	58.00	77.00	102.00	150.00
" Dble Y T Pattern..... "	1.05	1.22	1.50	2.30	5.00	5.95	9.20	16.50	24.50	42.50	62.00	102.00	.....
" " " " Red. "	....	1.35	1.65	2.60	5.50	6.55	10.00	18.50	27.00	.....	68.00	.....	.....
" " " "Long Turn "	....	1.75	1.95	3.10	6.30	8.75	15.75	24.50	52.50	79.00	105.00	.....	.....
" " " " " Red "	....	1.90	2.25	3.35	7.00	9.65	17.50	27.00	58.00	.....	.....	.....	.....
60° Y Branches..... "	....	.....	1.15	1.65	.....	.....	6.75	12.50	18.50	.....	.....	.....	.....
" " " Reducing. "	....	.....	.....	1.85	.....	5.10	7.40	13.65	20.00	.....	48.00	.....	.....
45° Y Branch..... "	....	.90	1.15	1.65	3.70	4.65	6.75	12.50	18.50	33.25	44.00	91.00	130.00
" " " Reducing... "	....	.....	1.25	1.85	4.00	5.10	7.40	13.65	20.00	37.00	48.00	97.00	140.00
" Dbl. Y Branches..... "	....	1.60	1.75	2.55	5.70	7.00	10.00	18.80	28.00	50.00	66.50	137.00	.....
" " " " Redg... "	....	.....	1.90	2.80	6.30	7.70	11.00	20.50	30.50	54.00	72.00	.....	.....
Increasers..... "	....	.....	.....	.....	.....	4.40	6.55	9.65	11.35	20.00	26.25	35.00	70.00
Roof Connections..... "	....	.....	.....	2.00	.....	2.10	2.60	3.50	7.40	.....	.....	.....	.....
Brass Soldering Nipples... "	.80	.90	1.05	1.50	.....	2.75	4.00	9.00	.....	.....	.....	.....	.....
S. Trap..... "	....	.....	.....	7.00	.....	16.00	24.00	37.00	63.00	.....	.....	.....	.....
Half S. Trap..... "	....	2.70	3.00	3.85	.....	8.75	17.50	37.50	57.00	70.00	95.00	.....	.....
Running Trap..... "	....	4.20	4.70	5.75	.....	9.50	17.00	43.00	58.50	87.50	115.00	200.00	300.00
Offsets to Offset 4"..... "	....	.....	.....	3.75	.....	5.85	8.75	.....	.....	.....	.....	.....	.....
" " 6"..... "	....	.....	.....	4.20	.....	7.00	10.00	15.75	22.00	.....	.....	.....	.....
" " 8"..... "	....	.....	.....	4.55	.....	8.30	11.35	17.50	23.50	.....	.....	.....	.....
" " 10"..... "	....	.....	.....	5.00	.....	9.65	13.15	19.25	25.50	.....	.....	.....	.....
" " 12"..... "	....	.....	.....	.....	.....	.....	15.00	21.00	27.00	.....	.....	.....	.....

LONG TURN 90° Y BRANCHES, with Auxiliary Inlet.

	3"	4"	5 x 4"	6 x 4"
With One 2" Inlet on Side.....	9.20	15.75	21.00	40.00
" Two " Inlets on Side.....	10.00	17.50	22.75	44.00
" One " Inlet on Side & one on Top.....	.....	17.50	22.75	44.00
" Two " Inlets on Side and one on Top.....	.....	19.25	25.50	49.00

For Black Fittings, see Page 100.
NOTE.—Connections Right and Left are called as shown on opposite page.
90° Fittings—Inlets are always Tapped pitched ¼" to the Foot.
For List of Sizes, see page 101

DRAINAGE FITTINGS.
Black Cast Iron Screwed for Wrought Iron Pipe.

SIZE Inches	1	1¼	1½	2	2½	3	4	5	6	7	8	10	12
90° Elbows.....each 60°, 45°. 22½°..... " 11¼°, 5⅝° Elbows..... "	....	.30	.38	.57	1.20	1.45	2.30	4.25	6.25	11.50	15.00	31.00	47.50
90° Long Turn Elbows..... "	....	.35	.42	.65	1.40	1.75	2.75	5.25	7.50	13.50	19.00	38.00	57.50
45° " " " ..... "	....	.....	.42	.65	1.40	1.75	2.75	5.25	7.50	13.50	19.00	38.00	57.50
90° Elbows, with Side outlet "	....	.....	.....	.....	.....	.....	3.85	.....	.....	.....	.....	.....	.....
90° " " Heel..... "	....	.....	.....	.....	.....	.....	3.85	.....	.....	.....	.....	.....	.....
Three Way Elbows..... "	....	.75	.85	1.10	2.25	3.00	5.00	7.50	13.50	.....	.....	.....	.....
" " " Reducing "	....	.....	.....	.....	.....	.....	5.50	8.25	15.00	.....	.....	.....	.....
Closet Elbows..... "	....	.....	.....	.....	.....	.....	4.25	.....	.....	.....	.....	.....	.....
" " " Reducing "	....	.....	.....	.....	.....	.....	.....	4.25	.....	.....	.....	.....	.....
Closet Flanges, Plain..... "	....	.....	.....	.....	.....	.....	1.35	.....	.....	.....	.....	.....	.....
" " Recessed for Asbestos Ring "	....	.....	.....	.....	.....	.....	1.35	.....	.....	.....	.....	.....	.....
" " Brass..... "	....	.....	.....	.....	.....	.....	7.00	.....	.....	.....	.....	.....	.....
Tees..... "	....	.....	.55	.80	1.50	2.00	3.25	6.00	8.75	16.00	21.00	43.00	60.00
" Reducing..... "	....	.....	.....	.90	1.65	2.20	3.60	6.60	.....	.....	.....	.....	65.00
Basin Tees..... "	....	.60	.70	1.10	1.75	.....	.....	.....	.....	.....	.....	.....	.....
" " Reducing..... "	....	.....	.77	1.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Crosses..... "	....	.....	1.50	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
" " Reducing.... "	....	.....	.....	1.95	.....	.....	.....	.....	.....	.....	.....	.....	.....
90° Y Branches, Tee Pattern "	.40	.45	.57	.85	1.80	2.20	3.50	6.50	9.50	17.50	23.00	47.00	.....
" " " "Reduc'g "	....	.50	.63	.95	2.00	2.40	3.85	7.15	10.50	.....	25.50	.....	.....
" " " "Long Turn"	....	.57	.70	1.10	2.40	3.35	6.00	9.50	20.00	30.00	40.00	.....	.....
" " " " " Red. "	....	.63	.80	1.20	2.65	3.75	6.60	10.50	22.00	33.00	44.00	60.00	85.00
" Dble Y T Pattern..... "	.60	.70	.85	1.30	2.85	3.40	5.25	9.50	14.00	25.00	36.00	60.00	.. ...
" " " " Red. "	....	.77	.95	1.50	3.15	3.75	5.75	10.50	15.50	.....	40.00	.....	.....
" " " "Long Turn "	....	1.00	1.19	1.75	3.60	5.00	9.00	14.00	30.00	45.00	60.00	.....	.....
" " " " " Red. "	....	1.10	1.25	1.90	4.00	5.50	10.00	15.50	33.00	.....	.....	.....	.....
60° Y Branches..... "	....	.....	.65	.95	.....	.....	3.85	7.10	10.50	.....	.....	.....	.....
" " " Reducing.. "	....	.....	.....	1.05	.....	2.90	4.25	7.80	11.50	.....	27.50	.....	.....
45° Y Branch..... "	....	.52	.65	.95	2.10	2.65	3.85	7.10	10.50	19.00	25.00	52.00	75.00
" " " Reducing... "	....	.....	.72	1.05	2.30	2.90	4.25	7.80	11.50	21.00	27.50	57.00	80.00
" Dbl. Y Branches..... "	....	.90	1.00	1.45	3.25	4.00	5.75	10.75	16.00	28.50	38.00	78.00	.....
" " " " Redg. "	....	.....	1.10	1.60	3.60	4.40	6.35	11.75	17.50	31.50	42.00	.....	.....
Increasers..... "	....	.....	.....	.....	.....	2.50	3.75	5.50	6.50	12.00	15.00	20.00	40.00
Roof Connections..... "	....	.....	.....	1.15	.....	1 20	1.50	2.00	4.25	.....	.....	.....	.....
Brass Soldering Nipples.... "	.80	.90	1.05	1.50	.....	2.75	4.00	9.00	.....	.....	.....	.....	.....
S. Trap..... "	....	.....	.....	4.00	.....	9.25	14.00	21.00	36.00	.....	.....	.....	.....
Half S. Trap..... "	....	1.55	1.70	2.20	.....	5.00	10.00	21.50	32.50	40.00	55.00	.....	.....
Running Trap..... "	....	2.40	2.70	3.30	.....	5.50	9.75	24.50	33.50	50.00	65.00	115.00	180.00
Offsets to Offset 4"..... "	....	.....	.....	2.15	.....	3.35	5.00	.....	.....	.....	.....	.....	.....
" " 6"..... "	....	.....	.....	2.40	.....	4.00	5.75	9.00	12.50	.....	.....	.....	.....
" " 8"..... "	....	.....	.....	2.60	.....	4.75	6.50	10.00	13.50	.....	.....	.....	.....
" " 10"..... "	....	.....	.....	2.85	.....	5.50	7.50	11.00	14.50	.....	.....	.....	.....
" " 12"..... "	.....	.....	.....	.....	.....	.....	8.50	12.00	15.50	.....	.....	.....	.....

LONG TURN 90° Y BRANCHES, with Auxiliary Inlet.

	3"	4"	5 x 4"	6 x 4"
With One 2" Inlet on Side.....	5.25	9.00	12.00	23.00
" Two " Inlets on Side.....	5.75	10.00	13.00	25.00
" One " Inlet on Side and one on Top.....	....	10.00	13.00	25.00
" Two " Inlets on Side and one on Top	....	11.00	14.50	28 00

For Galvanized Fittings, see Page 99.
NOTE.—Connections Right and Left are called as shown on page 98.
90° Fittings—Inlets are always Tapped, Pitched ¼" to the Foot.
For list of Sizes, see Page 101.

DRAINAGE FITTINGS.

Cast Iron Screwed for Wrought Iron Pipe.

LIST OF SIZES.

90 ° **Elbows,** 1¼″ to 12″
60 ° " 1¼″ to 10″
45 ° " 1¼″ to 12″
22½° " 1¼″ to 12″
11¼° " 1¼″ to 10″
5⅝″ " 1¼″ & 10″

90 ° **Long Turn Elbows,** 1¼″ to 12″
45 ° " " " 1¼″ to 12″

90 ° **Elbows, with Side Inlet,** 4½ x 2″
" " " **Heel** " 4″ x 2″

Threeway Elbows.—1¼″ to 6″.

Threeway Elbowx, Reducing.—4″ x 3″, 5″ x 4″, 6″ x 4″, 6″ x 5″.

Closet Elbows.—4″ x 7″ Flange.

Closet Elbows, Reducing.—4″ x 5″.

Closet Flanges.—4″ x 7″ Flange.

" " **Recessed for Asbestos Ring.**—4″ x 7″ Flange.

Brass Closet Flanges.—4″ x 7″ Flange.

Tees.—1½″ to 12″.

Tees, Reducing.—2″ x 1¼″, 2″ x 1½″, 2½″ x 2″, 3″ x 1½″, 3″ x 2″, 4″ x 2″, 4″ x 3″, 5″ x 2″, 5″ x 3″, 5″ x 4″, 12″ x 8″, 12″ x 10″.

Basin Tees.—1¼″, 1½″, 1½″ x 1¼″, 2″, 2″ x 1¼″, 2″ x 1½″, 2½″.

" **Crosses.**—1½″, 2″, 2″ x 1½″.

90° **Y Branches, Tee Pattern.**—1″ to 10″.

90° **Y Branches, Tee Pattern, Reducing.**—1¼″ x 1″, 1½″ x 1″, 1½″ x 1¼″, 2″ x 1¼″, 2″ x 1½″, 2½″ x 1¼″, 2½″ x 1½″, 2½″ x 2″, 3″ x 1¼″, 3″ x 1½″, 3″ x 2″, 4″ x 1¼″, 4″ x 1½″, 4″ x 2″, 4″ x 2½″, 4″ x 3″, 3″ x 4″, 5″ x 1½″, 5″ x 2″, 5″ x 2½″, 5″ x 3″, 5″ x 4″, 6″ x 1½″, 6″ x 2″, 6″ x 3″, 6″ x 4″, 6″ x 5″, 8″ x 2″, 8″ x 3″, 8″ x 4″, 8″ x 5″, 8″ x 6″.

90° **Y Branches, Tee Pattern, Long Turn, Reducing.**—1¼″ x 1″, 1½″ x 1″, 1½″ x 1¼″, 2″ x 1″, 2″ x 1¼″, 2″ x 1½″, 2½″ x 1″, 2½″ x 1¼″, 2½″ x 1½″, 2½″ x 2″, 3″ x 1½″, 3″ x 2″, 3″ x 2½″, 4″ x 1½″, 4″ x 2″ 4″ x 2½″, 4″ x 3″, 5″ x 1½,″ 5″ x 2″, 5″ x 2½″, 5″ x 3″, 5″ x 4″, 6″ x 2″, 6″ x 3″, 6″ x 4″, 6″ x 5″, 7″ x 3″, 7″ x 4″, 7″ x 5″, 7″ x 6″, 8″ x 3″, 8″ x 4″, 10″ x 4″, 12″ x 5″.

90° **Y Branches, Tee Pattern, Long Turn.**—1¼″ to 8″.
90° **Double Y's, Tee Pattern.**—1″ to 10″.
" " " " **Reducing.**—1¼″ x 1″, 1½″ x 1¼″, 2″ x 1¼″, 2″ x 1½″, 2½″ x 1½″, 2½″ x 2″, 3″ x 1½″, 3″ x 2″, 4″ x 2″, 5″ x 4″, 6″ x 2″, 6″ x 4″, 6″ x 5″, 8″ x 6″.
90° **Double Y's, Tee Pattern, Long Turn.**—1¼″ to 8″,
" " " " " **Reducing.**—1¼″ x 1″, 1½″ x 1″, 1½″ x 1¼″, 2″ x 1¼″, 2″ x 1½″, 2½″ x 1¼″, 2½″ x 1½″, 3″ x 1½″, 3″ x 2″, 4″ x 2″, 4″ x 3″, 5″ x 4″, 6″ x 2″, 6″ x 4″, 6″ x 5″.
60° **Y Branches,** 1½″, 2″, 4″, 5″, 6″.
" " **Reducing.**—2″ x 1½″, 3″ x 2″, 4″ x 2″, 4″ x 3″, 5″ x 2″, 5″ x 3″, 5″ x 4″, 6″ x 2″, 6″ x 4″, 6″ x 5″, 8″ x 4″, 8″ x 6″.
45° **Y Branches.**—1¼″ to 12″.
45° " " **Reducing.**—1½″ x 1¼″, 2″ x 1¼″, 2″ x 1½″, 2½″ x 1¼″, 2½″ x 1½″, 2½″ x 2″, 3″ x 1¼″, 3″ x 1½″, 3″ x 2″, 3″ x 2½″, 4″ x 1¼″, 4″ x 1½″, 4″ x 2″, 4″ x 2½″, 4″ x 3″, 5″ x 2″, 5″ x 3″, 5″ x 4″, 6″ x 2″, 6″ x 2½″, 6″ x 3″, 6″ x 4″, 6″ x 5″, 7″ x 3″, 7″ x 4″, 7″ x 5″, 7″ x 6″, 8″ x 3″, 8″ x 4″, 8″ x 5″, 8″ x 6″, 10″ x 4″, 10″ x 5″, 10″ x 6″, 12″ x 6″.
45° **Double Y Branches.**—1¼″ to 10″.
" " " **Reducing.**—1½″ x 1¼″, 2″ x 1½″, 2½″ x 1¼″, 2½″ x 1½″, 3″ x 1½″, 3″ x 2″, 4″ x 2″, 4″ x 3″, 5″ x 2″, 5″ x 3″, 5″ x 4″, 6″ x 2″, 6″ x 3″, 6″ x 4″, 7″ x 6″, 8″ x 4″, 8″ x 6″.

Increasers.—3″ x 2″, 4″ x 2″, 4″ x 3″, 5″ x 2″, 5″ x 3″, 5″ x 4″, 6″ x 4″, 6″ x 5″, 7″ x 4″, 7″ x 6″, 8″ x 4″, 8″ x 6″, 10″ x 8″, 12″ x 10″.

Roof Connections.—2″, 3″, 4″, 5″, 6″.

Brass Soldering Nipples.—1″, 1¼″ 1½″, 2″, 3″, 4″, 5″.

S. Traps.—2″, 3″, 4″, 5″, 6″.

Half S. Traps.—1¼″, 1½″, 2″, 3″, 4″, 5″, 6″, 7″, 8″.

Running Traps.—1¼″, 1½″, 2″, 3″, 4″, 5″, 6″, 7″, 8″, 10″, 12″.

Offsets.—2″ x 4″, 2″ x 6″, 2″ x 8″, 2″ x 10″, 3″ x 4″, 3″ x 6″, 3″ x 8″, 3″ x 10″, 4″ x 4″, 4″ x 6″, 4″ x 8″, 4″ x 10″, 4″ x 12″, 5″ x 6″, 5″ x 8″, 5″ x 10″, 5″ x 12″, 6″ x 6″, 6″ x 8″, 6″ x 10″, 6″ x 12″.

Long Turn 90° Y Branches with Auxiliary Inlets.—
Inlets on Side and Top are 2″.
3″, 4″, 5″ x 4″, 6″ x 4″.
With Inlets on either side, both sides, either side and top and both sides and top.

LEVER HANDLE BIBBS.

LEAD PIPE.

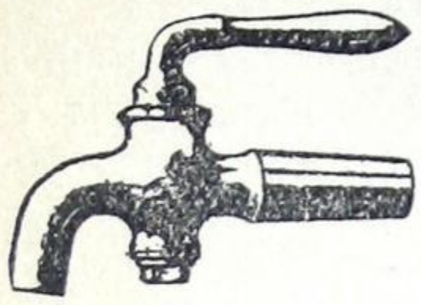


Fig. G901.

IRON PIPE.

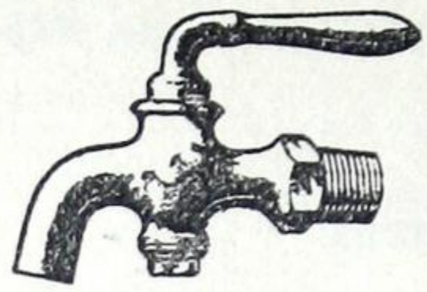


Fig. G902.

HOSE AND LEAD.

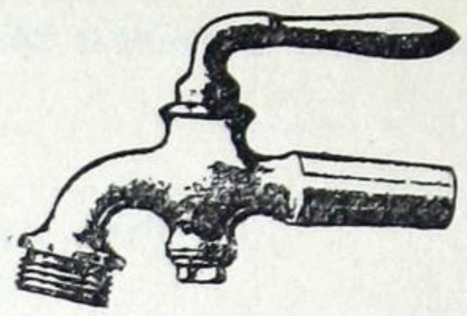


Fig. G903.

HOSE AND IRON

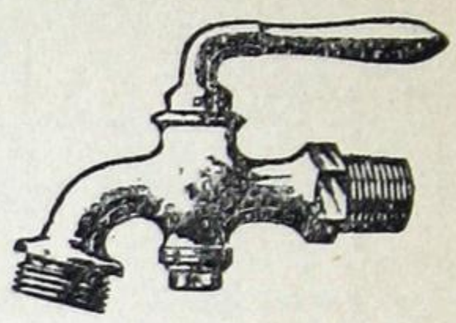


Fig. G904.

Size, Inches			¼	⅜	½	⅝	¾	1	1¼	1½	2
Fig. G. 901	Finished	per dozen	$25.80	$26.40	$27.00	$37.20	$47.40	$68.40	$112.80	$188.40	$315.00
" "	Nickel Plated	"	30.60	31.20	31.80	43.20	56.40	80.40	130.80	218.40	357.00
" G. 902	Finished	"	24.60	25.20	25.80	35.40	45.00	64.80	107.40	179.40	300.00
" " "	Nickel Plated	"	29.40	30.00	30.60	41.40	54.00	76.80	125.40	209.40	342.00
" G. 903	Finished	"	.....	29.40	30.00	40.20	50.40	75.60	123.60	203.40	337.20
" " "	Nickel Plated	"	.....	34.20	34.80	46.20	59.40	87.60	141.60	233.40	379.20
" G. 904	Finished	"	.....	28.20	28.80	38.40	48.00	72.00	118.20	194.40	322.20
" " "	Nickel Plated	"	.....	33.00	33.60	44.40	57.00	84.00	136.20	224.40	364.20
If with Ball Handles, add		"	3.60	4.20	4.80	5.40	6.60	8.40	10.20	12.00	18.00

ROUGH TEE HANDLE STOP AND STOP AND WASTE COCKS.—Flat Way.

STOP—Lead Pipe.

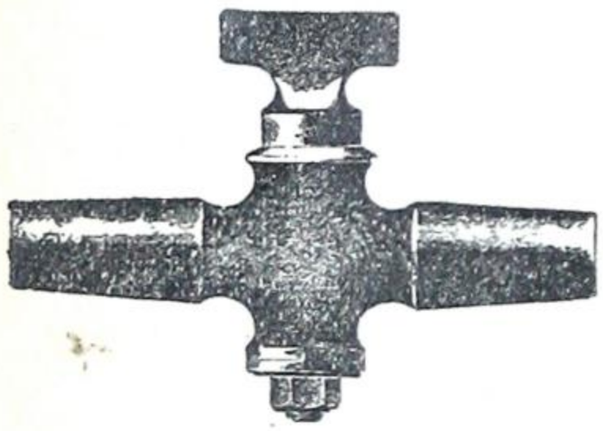


Fig. G906.

STOP—Lead and Iron.

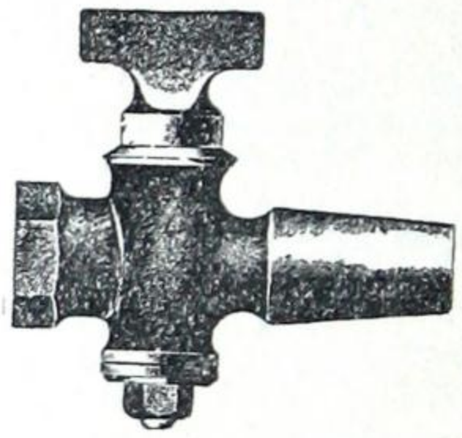


Fig. G907.

STOP—Iron Pipe.



Fig. G908.

STOP AND WASTE.
Lead Pipe.

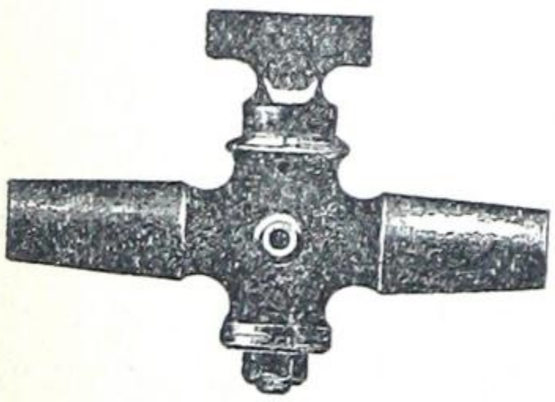


Fig. G909.

STOP AND WASTE.
Lead and Iron.

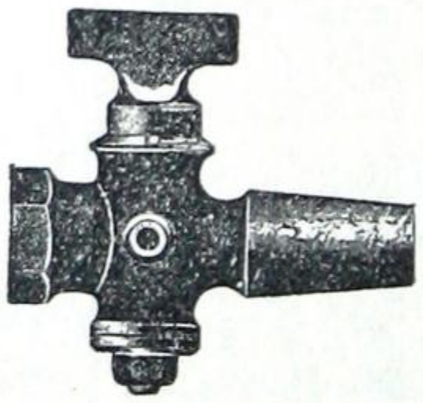


Fig. G910.

STOP AND WASTE.
Iron Pipe.



Fig. G911.

Size, Inches		¼	⅜	½	⅝	¾	1	1¼	1½	2
Fig. G. 906	per dozen	$22.20	$22.80	$23.40	$33.00	$40.80	$60.00	$100.20	$167.40	$288.00
" G. 907	"	22.20	22.80	23.40	33.00	40.80	60.00	100.20	167.40	288.00
" G. 908	"	19.80	20.40	21.00	29.40	36.00	52.80	89.40	149.40	258.00
" G. 909	"	22.80	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
" G. 910	"	22.80	23.40	24.00	33.60	41.40	62.20	102.00	170.40	294.00
" G. 911	"	20.40	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00

ROUGH LEVER HANDLE STOP AND STOP AND WASTE COCKS.—Flat Way.

STOP.

Lead Pipe.

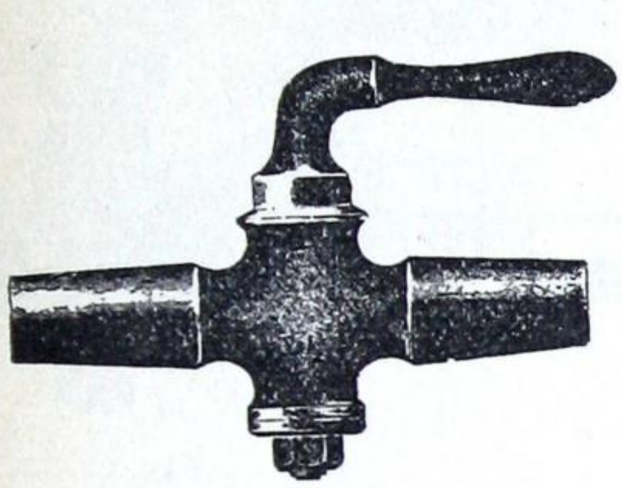


Fig. G912.

STOP.

Lead and Iron Pipe.

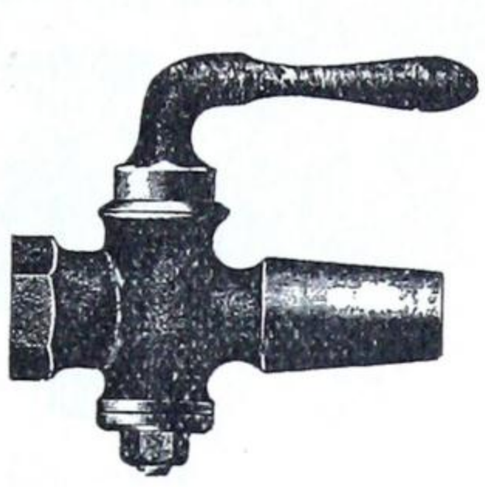


Fig. G913.

STOP.

Iron Pipe.



Fig. G914.

STOP AND WASTE.

Lead Pipe.

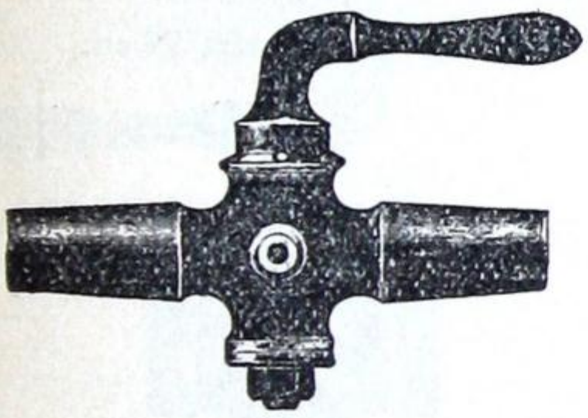


Fig. G915.

STOP AND WASTE.

Lead and Iron Pipe.

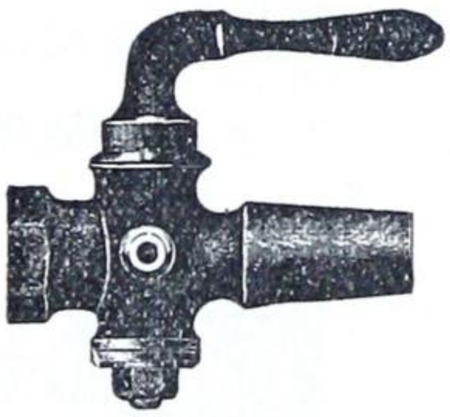


Fig. G916.

STOP AND WASTE.

Iron Pipe.

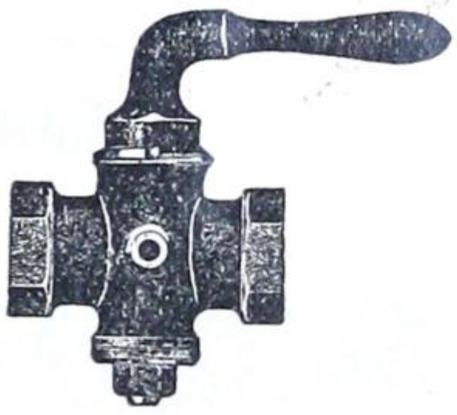


Fig. G917.

Size, Inches.....			$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G. 912.....	per dozen		$22.20	$22.80	$23.40	$33.00	$40.80	$60.00	$100.20	$167.40	$288.00
" G. 913.....	"		22.20	22.80	23.40	33.00	40.80	60.00	100.20	167.40	288.00
" G. 914.....	"		19.80	20.40	21.00	29.40	36.00	52.80	89.40	149.40	258.00
" G. 915.....	"		22.80	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
" G. 916.....	"		22.80	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
" G. 917.....	"		20.40	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00

ROUGH TEE HANDLE STOP AND WASTE COCKS.

Round Way.

Lead Pipe.

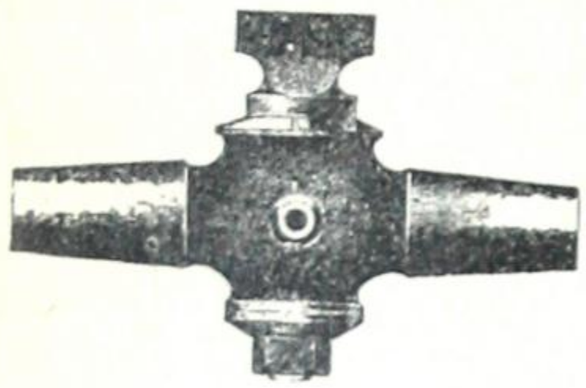


Fig. G921.

Lead and Iron Pipe.

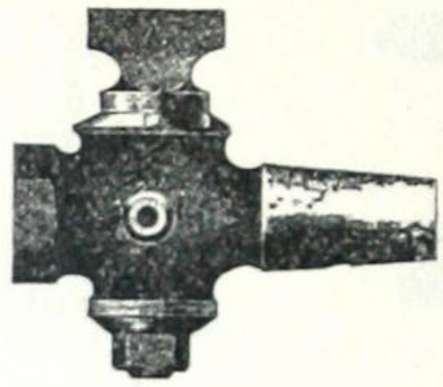


Fig. G922.

Iron Pipe.

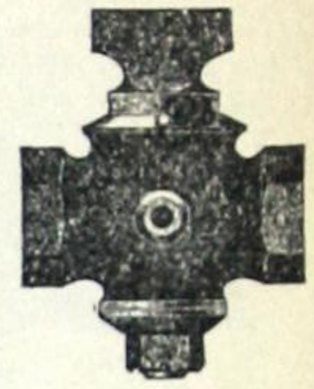


Fig. G923.

LEVER HANDLE STOP AND WASTE COCKS.

Round Way.

Lead Pipe.

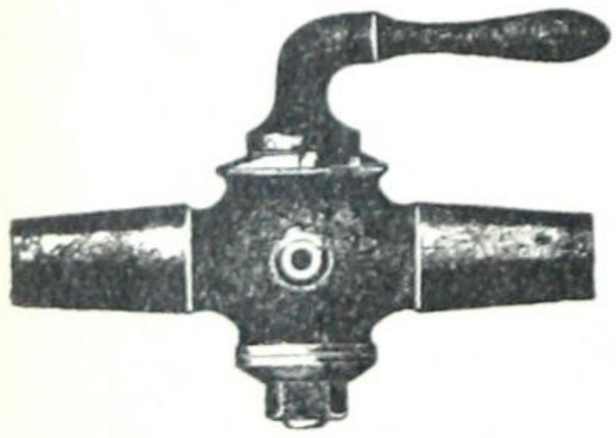


Fig. G924.

Lead and Iron Pipe.

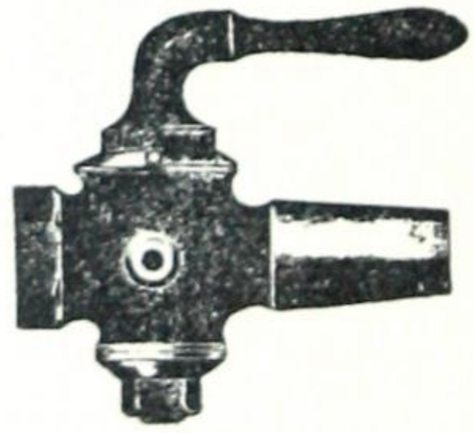


Fig. G925.

Iron Pipe.

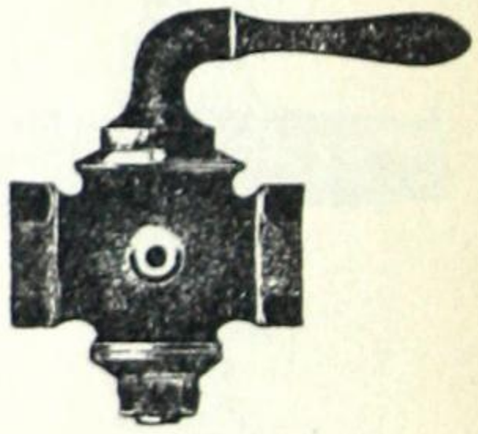


Fig. G926.

Size, Inches		¼	⅜	½	⅝	¾	1	1¼	1½	2
Fig. G. 921	per dozen	$27.00	$28.20	$29.40	$40.20	$51.60	$82.20	$133.20	$218.40	$378.00
" G. 922	"	27.00	28.20	29.40	40.20	51.60	82.20	133.20	218.40	378.00
" G. 923	"	24.60	25.80	27.00	36.60	46.80	75.00	122.40	200.40	348.00
If without Waste, deduct		.60	.60	.60	.60	.60	1.20	1.80	3.00	6.00
Fig. G. 924	per dozen	27.00	28.20	29.40	40.20	51.60	82.20	133.20	218.40	378.00
" G. 925	"	27.00	28.20	29.40	40.20	51.60	82.20	133.20	218.40	378.00
" G. 926	"	24.60	25.80	27.00	36.60	46.80	75.00	122.40	200.40	348.00
If without Waste, deduct		.60	.60	.60	.60	.60	1.20	1.80	3.00	6.00

ROUGH SOCKET HEAD STOPS, AND STOPS AND WASTES.—Flat Way.

Malleable Handle, Right or Left Hand, Tee or Lever Handle or Socket.

STOP.

Lead Pipe.

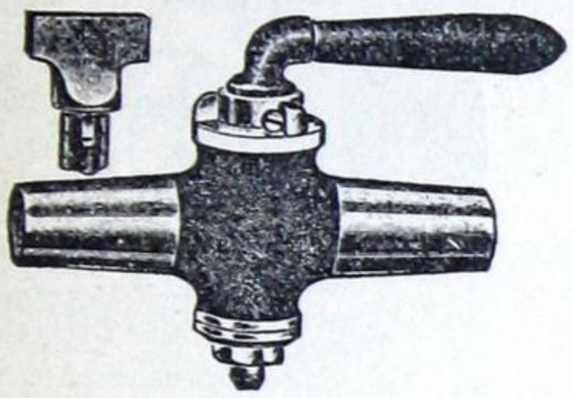


Fig. G927a

STOP.

Lead and Iron Pipe.

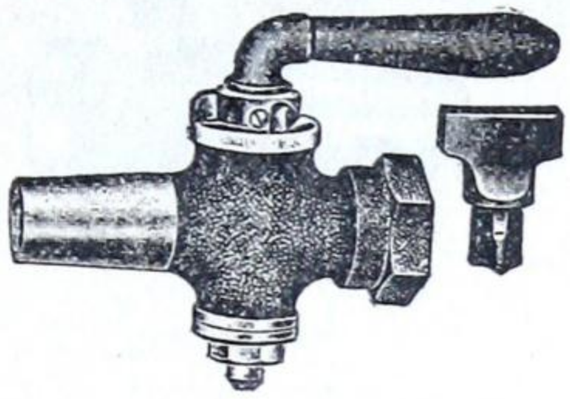


Fig. G927b

STOP.

Iron Pipe.

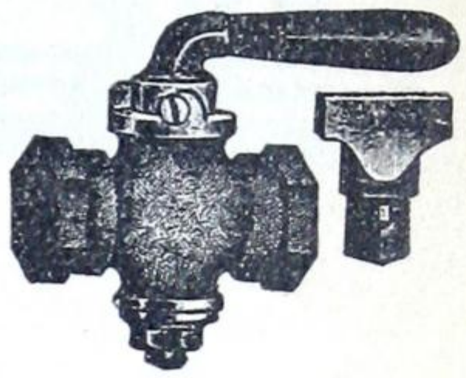


Fig. G927c

STOP AND WASTE.

Lead Pipe.

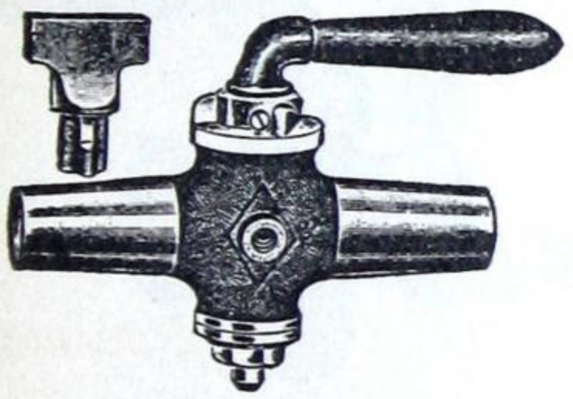


Fig. G928.

STOP AND WASTE.

Lead and Iron Pipe.

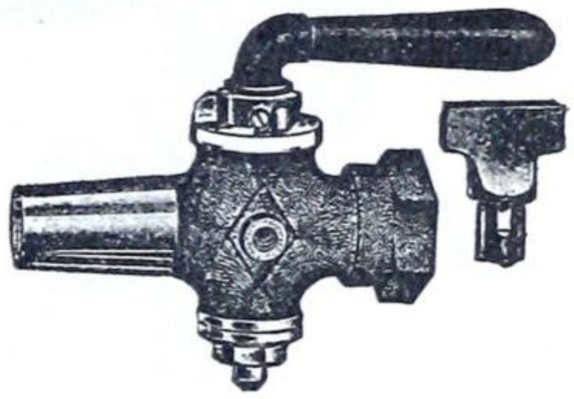


Fig. G929.

STOP AND WASTE.

Iron Pipe.

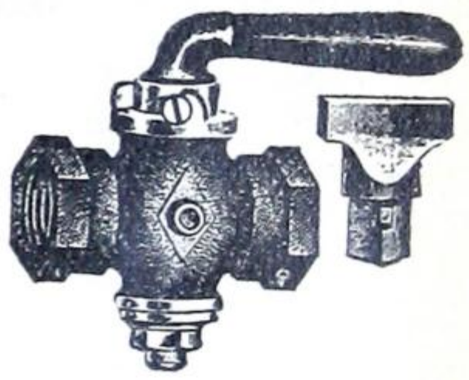


Fig. G930.

Flat Way.

Size, Inches		$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Stop—Lead Pipe	per dozen	$22.80	$23.40	$33.00	$40.80	$60.00	$100.20	$167.40	$288.00
" Lead and Iron Pipe	"	22.80	22.40	33.00	40.80	60.00	100.20	167.40	288.00
" Iron Pipe	"	20.40	21.00	29.40	36.00	52.80	89.40	149.40	258.00
Stop and Waste—Lead Pipe	"	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
" " Lead and Iron Pipe	"	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
" " Iron Pipe	"	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00

Round Way. (Not illustrated.)

Stop—Lead Pipe	per dozen	.....	28.80	39.60	51.00	81.00	131.40	215.40	372.00
" Lead and Iron Pipe	"	.....	28.80	39.60	51.00	81.00	131.40	215.40	372.00
" Iron Pipe	"	25.20	26.40	36.00	46.20	73.80	120.60	197.40	342.00
Stop and Waste—Lead Pipe	"	.....	29.40	40.20	51.60	82.20	133.20	218.40	378.00
" " Lead and Iron Pipe	"	.....	29.40	40.20	51.60	82.20	133.20	218.40	378.00
" " Iron Pipe	"	25.80	27.00	36.60	46.80	75.00	122.40	200.40	348.00

ROUGH TEE OR LEVER HANDLE, GUARD OR CAP STOP COCKS.

Flat Way.

Lead Pipe.

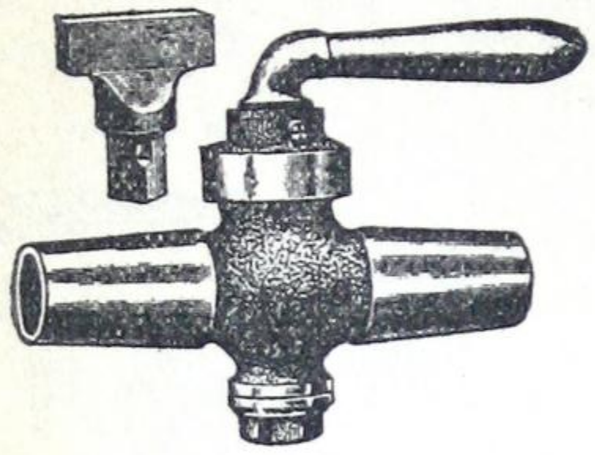


Fig. G931.

Lead and Iron Pipe.

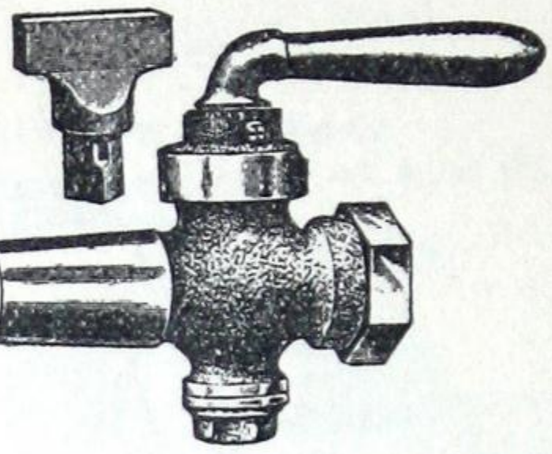


Fig. G932.

Iron Pipe.

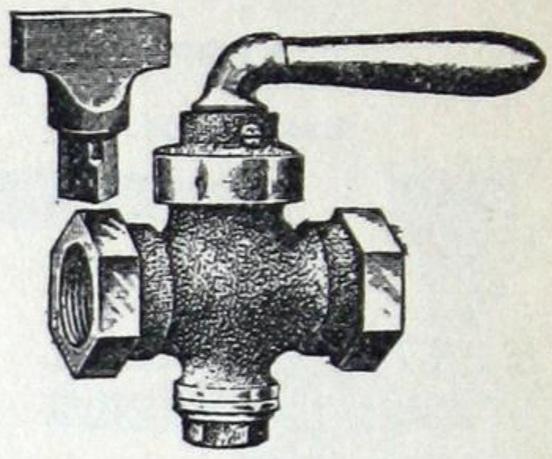


Fig. G933.

TEE OR LEVER HANDLE, GUARD OR CAP STOP AND WASTE COCKS.

Flat Way.

Lead Pipe.

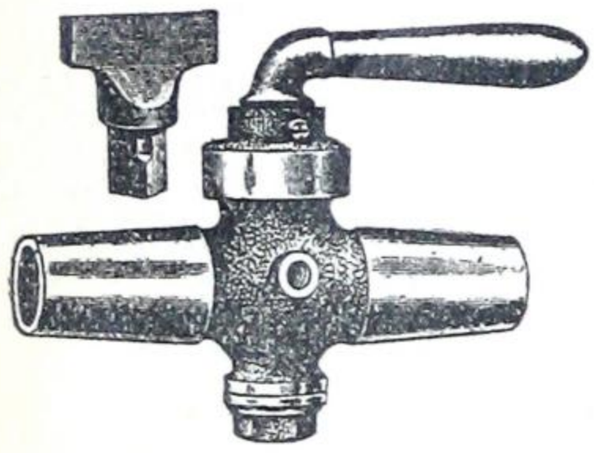


Fig. G934.

Lead and Iron Pipe.

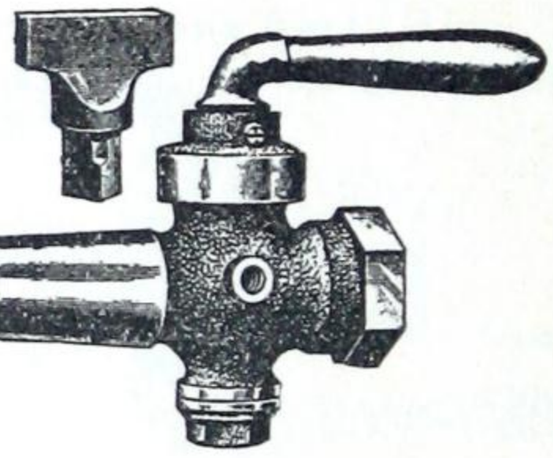


Fig. G935.

Iron Pipe.

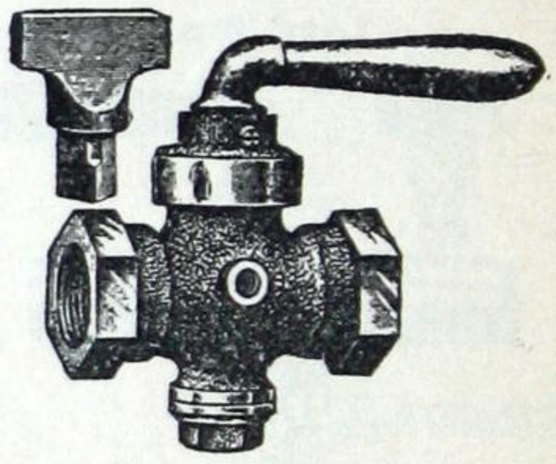


Fig. G936.

Flat Way.

Size, Inches			⅜	½	⅝	¾	1	1¼	1½	2
Fig.	G. 931	per dozen	$22.80	$23.40	$33.00	$40.80	$60.00	$100.20	$167.40	$288.00
"	G. 932	"	22.80	23.40	33.00	40.80	60.00	100.20	167.40	288.00
"	G. 933	"	20.40	21.00	29.40	36.00	52.80	89.40	149.40	258.00
"	G. 934	"	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
"	G. 935	"	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00
"	G. 936	"	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00

Round Way. (Not illustrated.)

Fig.	G. 931	per dozen	.....	28.80	39.60	51.00	81.00	131.40	215.40	372.00
"	G. 932	"	.....	28.80	39.60	51.00	81.00	141.40	215.40	372.00
"	G. 933	"	25.20	26.40	36.00	46.20	73.80	120.60	197.40	342.00
"	G. 934	"	.....	29.40	40.20	51.60	82.20	133.20	218.40	378.00
"	G. 935	"	.....	29.40	40.20	51.60	82.20	133.20	218.40	378.00
"	G. 936	"	25.80	27.00	36.60	46.80	75.00	122.40	209.40	348.00

RAIN AND WELL WATER COCKS.

Lead Pipe.

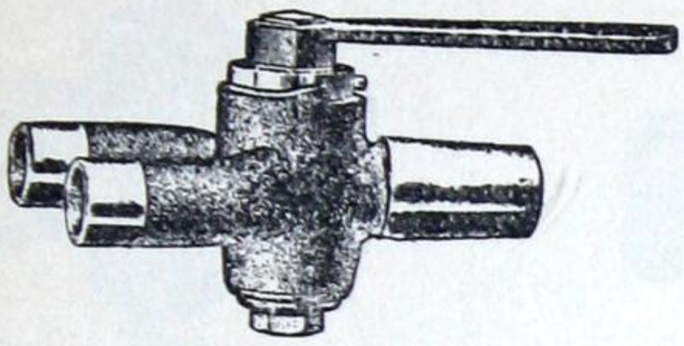


Fig. G941.

Iron Pipe.

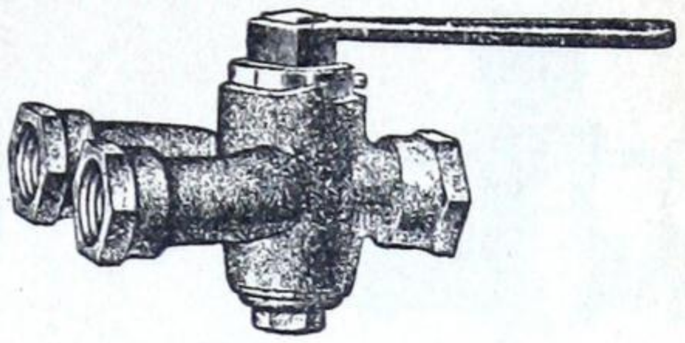


Fig. G942.

Size, Inches.....	¾	1	1¼	1½	2
Fig. G941, Rough .....per dozen	$79.20	$118.80	$196.20	$327.00	$561.00
" G942 " ..... "	72.00	108.00	180.00	300.00	516.00

RACKING COCKS.

TO DRIVE.



Fig. G946.

TO SCREW.

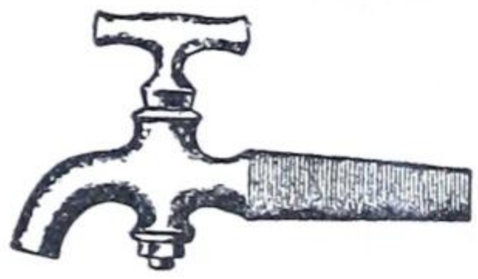


Fig. G947.

TO DRIVE.
Loose Key.

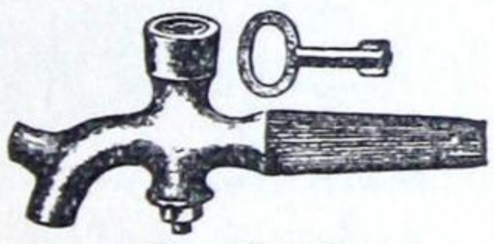


Fig. G948.

TO SCREW.
Loose Key.



Fig. G949.

Size, Inches.....	¼	⅜	½	⅝	¾	1
Fig. G946 To Drive.....per dozen	$10.00	$12.00	$15.00	$20.00	$29.00	$42.00
" G947 To Screw..... "	10.50	12.50	16.00	21.50	31.00	45.00
" G948 To Drive..... "	12.00	14.00	17.00	22.00	31.00	.....
" G949 To Screw..... "	12.50	14.50	18.00	23.50	33.00	.....

CORPORATION SERVICE.—BRASS WORK—Montreal Pattern.

STOP COCK, Lead Pipe.

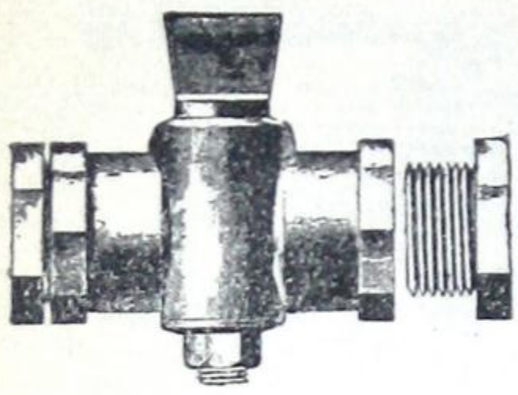


Fig. G951.

STOP COCK Iron Pipe.

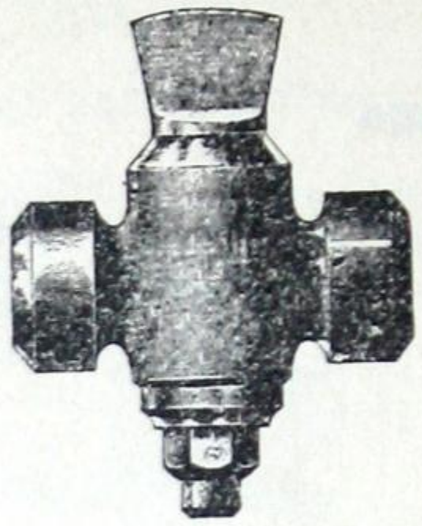


Fig. G952.

3-WAY STOP COCK, Lead Pipe.

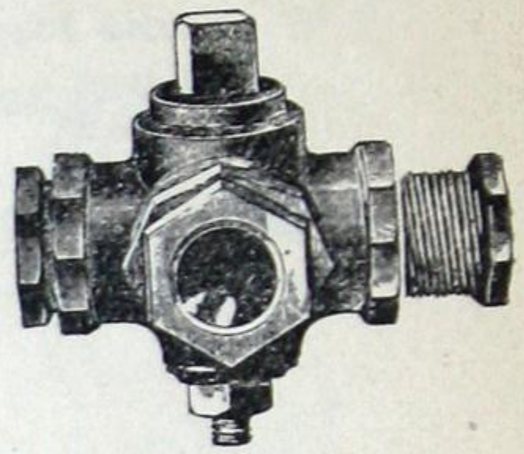


Fig. G953.

ELBOW TO DRIVE (or Screw), Lead Pipe.



Fig. G956.

Y PIECE, Lead Pipe.

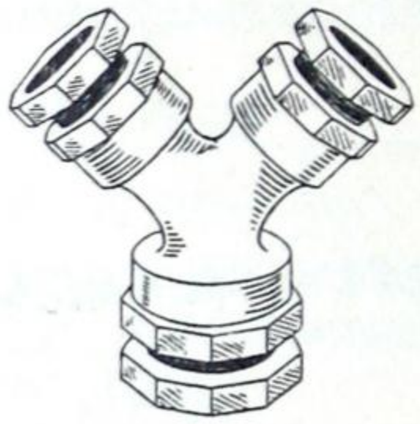


Fig. G957.

3-WAY OR TEE PIECE, Lead Pipe.

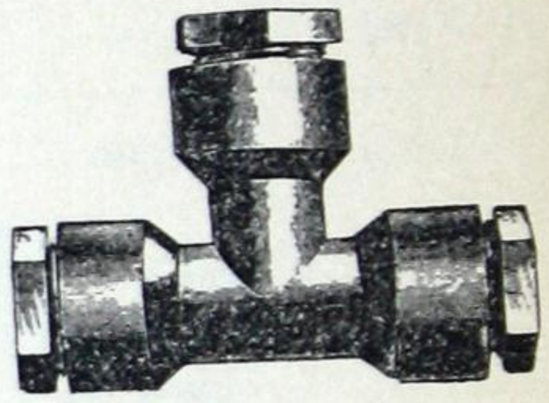


Fig. G958.

COUPLING, Lead Pipe.



Fig. G961.

COUPLING, Lead and Iron Pipe.



Fig. G962.

PIPE CAP.



Fig. G963.

Size, Inches....	$1\frac{1}{4}$	$1\frac{1}{2}$
Per doz.....	$4.35	$5.50

Size, Inches.....		$\frac{1}{2}$	$\frac{5}{8}$	$\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{5}{8}$	$\frac{3}{4}$	1
Stop Cock, Lead Pipe.....	per doz.	$18.00	$22.00	.....	$26.40	$33.00
" " Iron Pipe.....	"	14.00	.....	.....	18.75	.....
" " 3-Way Lead Pipe.....	"	.....	.....	$26.40	.....	.....
Elbows to Drive, Lead Pipe.....	"	7.50	9.40	.....	13.00	.....
" " " Iron Pipe.....	"	3.90	.....	.....	4.75	.....
" " Screw, Lead Pipe.....	"	9.00	11.50	.....	15.60	.....
Elbows " " Iron Pipe.....	"	4.70	.....	.....	5.75	.....
Y Piece, Lead Pipe.....	"	.....	.....	18.00	.....	.....
Tee " " "	"	.....	.....	18.00	.....	.....
Coupling, Lead Pipe.....	"	6.00	8.00	.....	9.00	13.00
" Lead and Iron Pipe.....	"	8.00	10.65	.....	12.00	17.35

NOTE.—When ordering Corporation Brass Work for Lead Pipe be careful to give size and weight of Lead Pipe or outside diameter.

INVERTED KEY CURB STOP (and Stop and Waste) COCKS.

ROUND WAY.

Iron Pipe.

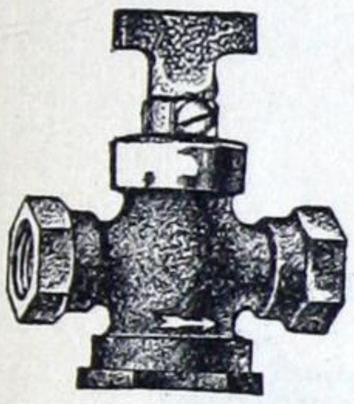


Fig. G964a

Lead and Iron Pipe.

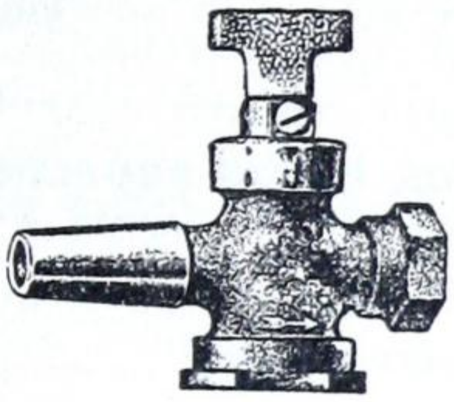


Fig. G964b

Lead Pipe with Coupling.

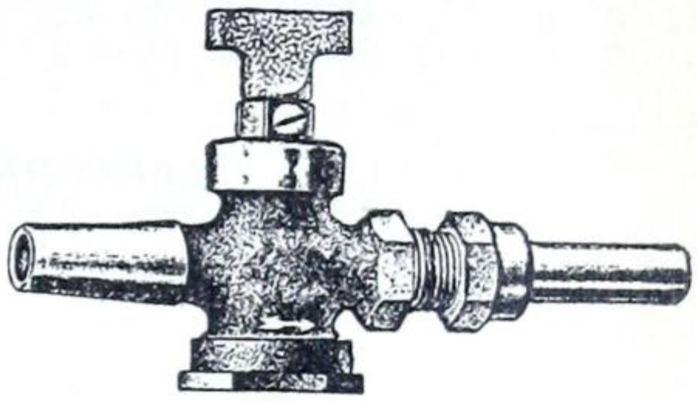


Fig. G964c

Lead Flange and I.P.

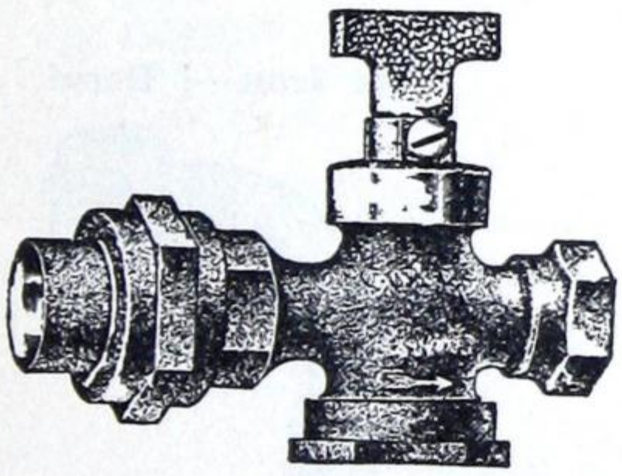


Fig. G964d

Lead Flange both Ends.

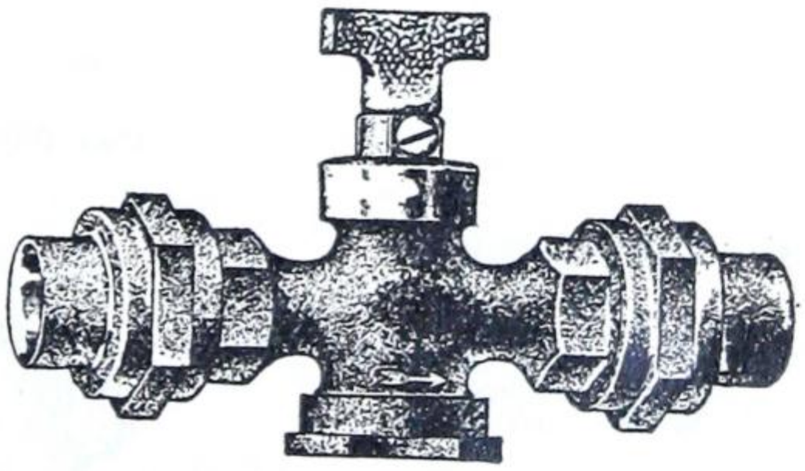


Fig. G964e

Size, Inches			½	⅝	¾	1	1¼	1½	2
Fig. G964a		per dozen	$35.40	$45.60	$58.80	$ 88.80	$144.60	$233.40	$396.00
" "	Stop and Waste	"	36.00	46.20	59.40	90.00	146.40	236.40	402.00
" G964b		"	37.80	49.20	63.60	96.00	155.40	251.40	426.00
" "	Stop and Waste	"	38.40	49.80	64.20	97.20	157.20	254.40	432.00
" G964c		"	43.20	57.60	72.60	108.00	173.40	278.40	468.00
" "	Stop and Waste	"	43.80	58.20	73.20	109.20	175.20	281.40	474.00
" G964d		"	45.00	58.80	75.00	112.80	186.60	293.40	483.00
" "	Stop and Waste	"	45.60	59.40	75.60	114.00	188.40	296.40	489.00
" G964e		"	54.60	72.00	91.20	136.80	228.60	353.40	570.00
" "	Stop and Waste	"	55.20	72.60	91.80	138.00	230.40	356.40	576.00

CORPORATION COCKS.

WITHOUT COUPLING.

Screw Plug for C.I. Mains.

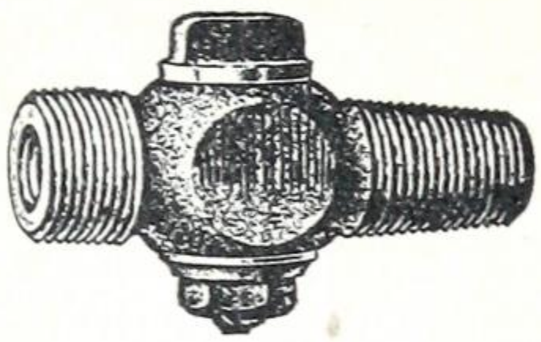


Fig. G965.a

WITHOUT COUPLING.

Without Screw Plug for Wood Mains.

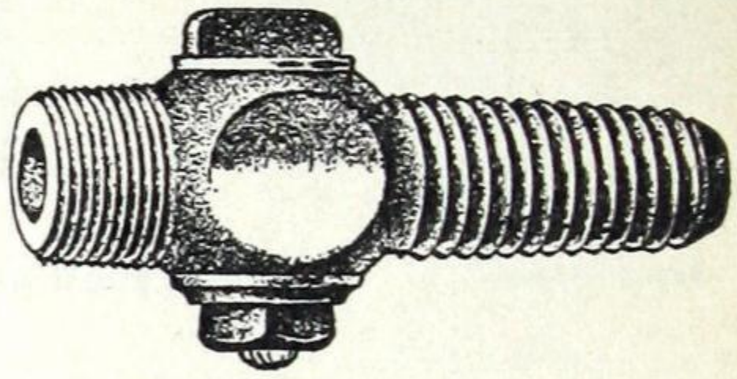


Fig. G965.b

CORPORATION COCK UNION COUPLINGS.

For Lead—Straight.



Fig. G965.c

For Lead—⅛" Bend.



Fig. G965.d

For Lead—¼" Bend.

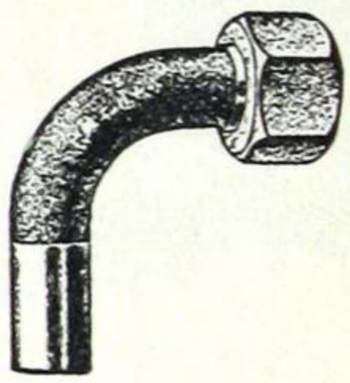


Fig. G965.e

For Iron—Straight.



Fig. G965.f

For Iron—⅛" Bend.

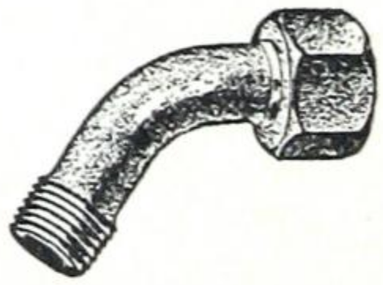


Fig. G965.g

For Iron—¼" Bend.

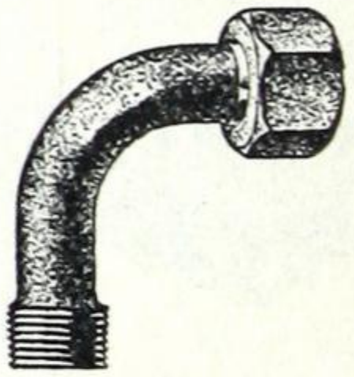


Fig. G965.h

Size, Inches.....	⅜	½	⅝	¾	1	1¼	1½	2
Fig. G965a.....per dozen	$16.20	$17.40	$23.40	$30.00	$48.00	$111.00	$180.00	$300.00
" " with Tailpiece c, d, or e..... "	18.00	19.20	27.00	34.20	54.00	120.00	192.00	318.00
" G965b ..... "	20.40	22.20	28.80	36.60	58.80	130.80	210.00	348.00
" " with Tailpiece c, d or e..... "	22.20	24.00	32.40	40.80	64.80	139.80	222.00	366.00
" G965c, d or e, when sold separately... "	4.20	6.00	7.20	9.00	12.00	18.00	24.00	42.00
" G965f, g or h, " " " "	7.80	9.60	12.00	13.80	18.00	27.00	36.00	60.00
Add for Hexagon on Main End..... "	1.80	1.80	3.00	4.20	6.00	Furnished with Hexagon		

Corporation Cocks for either Screw or Hexagon Plugs, same price.

CORPORATION COCKS.

With Lead Flange Coupling—Screw Plug for Cast Iron Main.

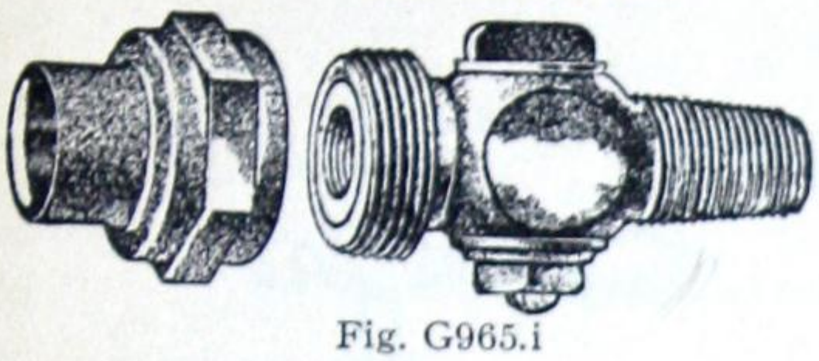


Fig. G965.i

With Lead Flange Coupling for Wood Main.

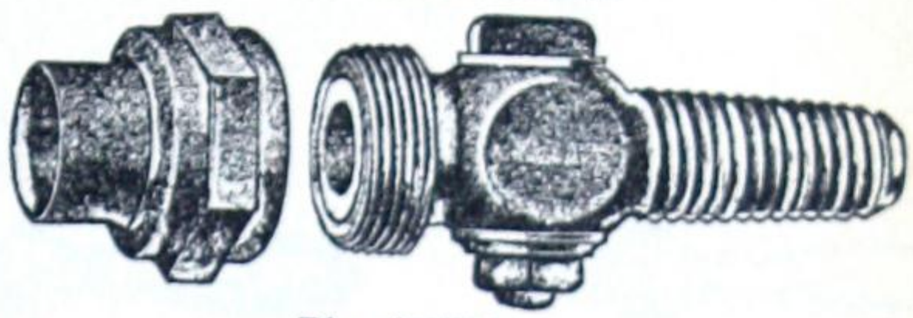


Fig. G965.j

Size, Inches		⅜	½	⅝	¾	1	1¼	1½	2
Fig. G965j	per dozen	$25.20	$27.00	$36.60	$46.20	$72.00	$153.00	$240.00	$387.00
" G965j	"	29.40	31.80	42.00	52.80	82.80	172.80	270.00	435.00
Add for Hexagon Main End	"	1.80	1.80	3.00	4.20	6.00	Furnished with Hexagon.		

LEAD FLANGE BRASS WATER CONNECTIONS—HEXAGON.

Two Branch.



Fig. G965.k

Three Branch.

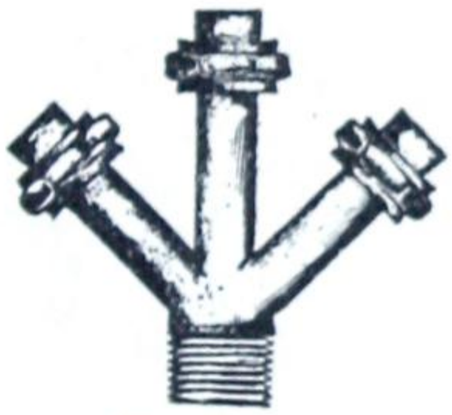


Fig. G965.l

Four Branch.



Fig. G965.m

Number of Inlets or Branches		2	3	4	6	8
Size of Lead Flange Couplings	Inches.	1	1	1	1	1
" Outlet Iron Pipe, male thread	"	1¼	1½	2	2½	3
Price	each.	$6.00	$8.50	$11.50	$24.00	$35.00

LEAD FLANGE UNION COUPLINGS.

Lead to Lead.

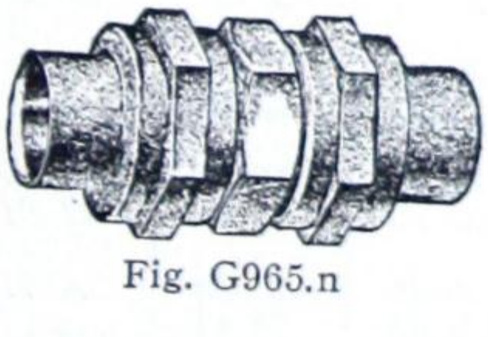


Fig. G965.n

Lead to Iron.



Fig. G965.o

Size, Inches		⅜	½	⅝	¾	1	1¼	1½	2
Fig. G965n	per dozen	$18.00	$21.00	$30.00	$35.40	$46.80	$90.00	$111.00	$171.00
" G965o	"	9.00	10.20	15.60	18.00	24.00	45.60	60.00	90.00

QUICK OPENING COMPRESSION BIBBS.

Iron Pipe.

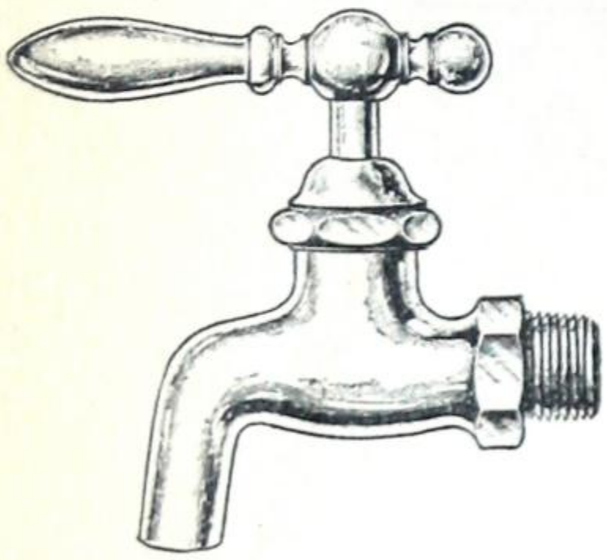


Fig. G966.

Iron Pipe, Solid Flange Male with Hexagon.

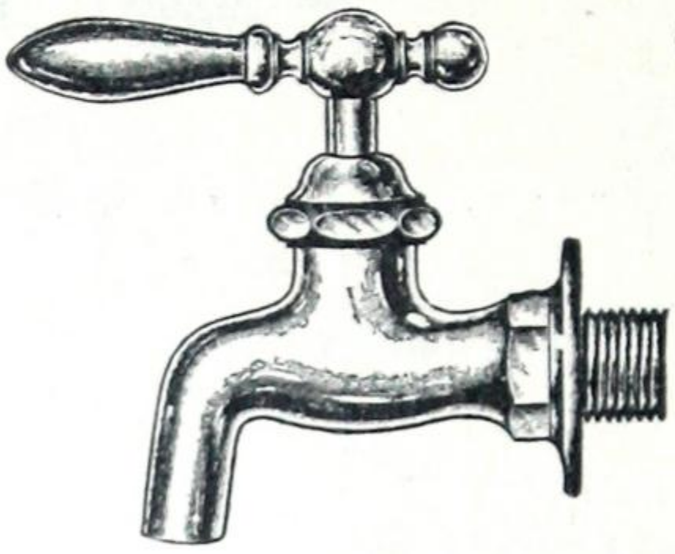


Fig. G967.

Iron Pipe with Set Screw Flange.

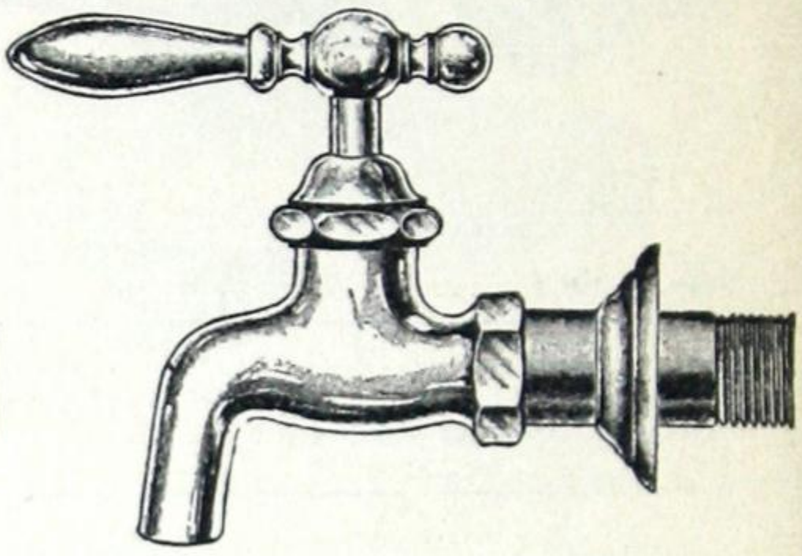


Fig. G968.

Stub Pattern—Wash Tray Bibb Solid Flange—Male.

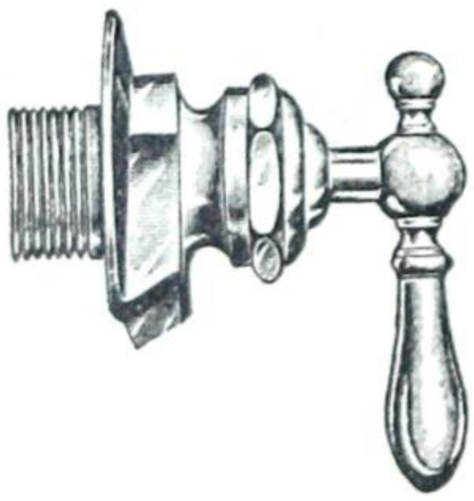


Fig. G969.

China Lever Handle.

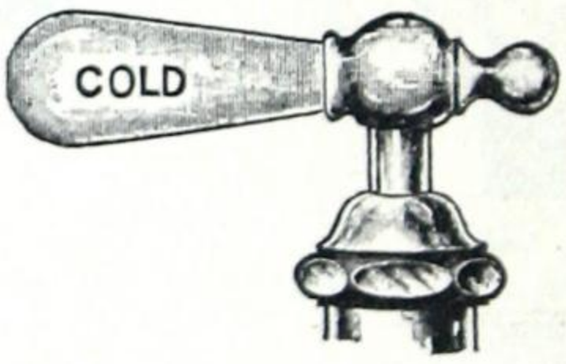


Fig. G970.

Size, Inches			⅜	½	⅝	¾	1
Fig. G966	Finished	per dozen	$20.40	$21.60	$27.00	$36.00	$66.00
" "	Nickel Plated	"	24.00	25.20	30.60	40.20	72.00
Fig. G967	Finished	"	28.20	29.40	36.00	46.80	82.20
" "	Nickel Plated	"	31.80	33.00	39.60	51.00	88.20
Fig. G968	Finished	"	.....	31.20	37.80	48.60	87.60
" "	Nickel Plated	"	.....	34.80	41.40	52.80	93.60
Fig. G969	Finished	"	.....	20.40	25.80	.....	.....
" "	Nickel Plated	"	.....	24.00	29.40	.....	.....
Fig. G970	Add for China Handle	"	6.00	6.00	6.00	6.00	6.00
"	Hose End	"	3.00	3.00	3.00	3.00	7.20

COMPRESSION BIBBS.

ROBERTSON'S KINGDON GRADE.

Lead Pipe.

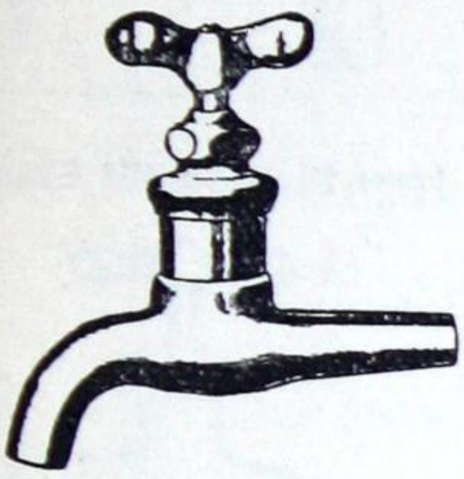


Fig. G971.

Iron Pipe.

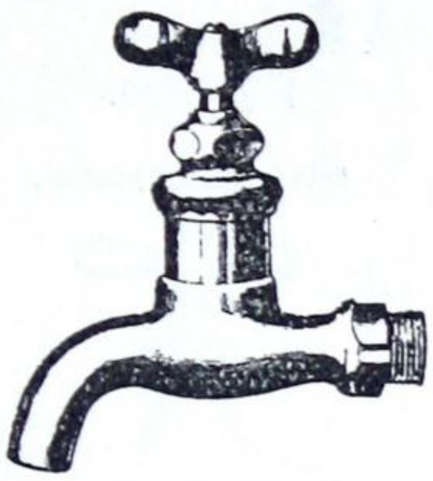


Fig. G972.

Iron Pipe, with Flange.



Fig. G973.

Lead and Hose.

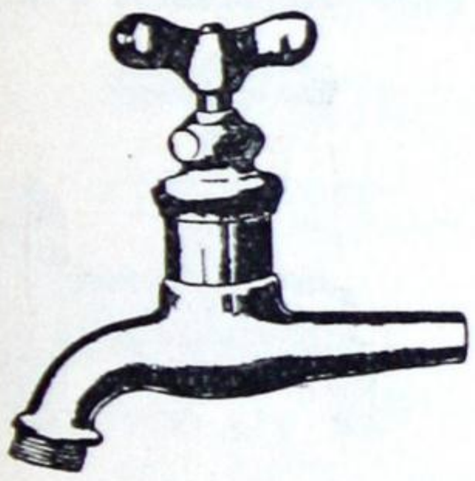


Fig. G974.

Iron and Hose.

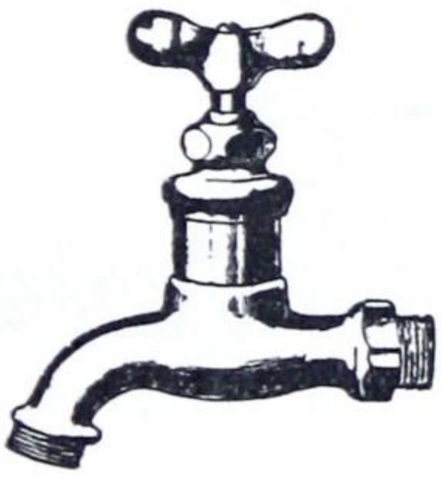


Fig. G975.

With Flange Nut and Bent Coupling.

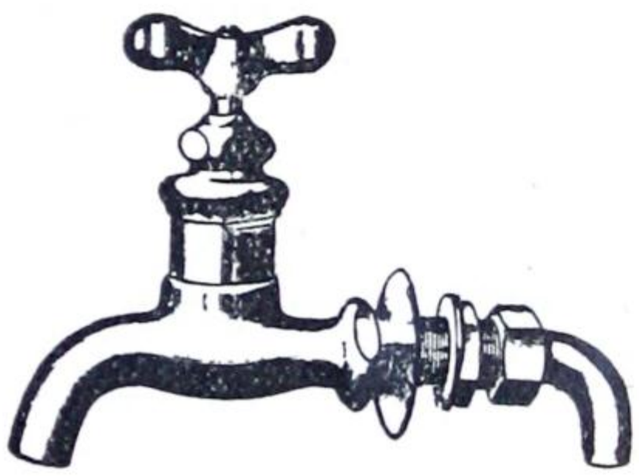


Fig. G976.

Size, Inches			½	⅝
Fig. G971	Finished	per doz.	$30.00	$35.00
" G972	Nickel Plated	"	35.00	40.00
" G973	Finished	"	37.00	43.00
" G973	Nickel Plated	"	42.00	48.00
" G974	Finished	"	32.50	37.50
" G975	Nickel Plated	"	37.50	42.50
" G976	Finished	"	50.00	57.50
" G976	Nickel Plated	"	55.00	62.50

COMPRESSION BIBBS.

Lead Pipe.



Fig. G981.

Iron Pipe.

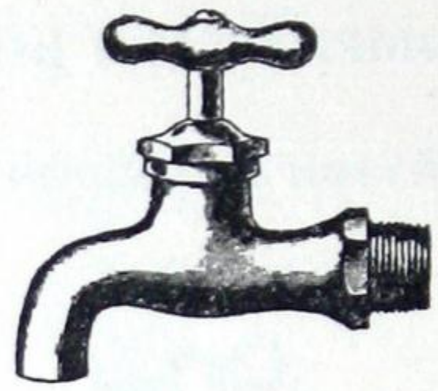


Fig. G982.

Iron Pipe—Solid Flange with Hexagon.



Fig. G984

Lead and Hose.

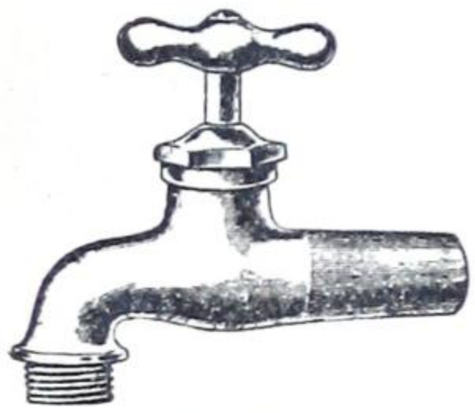


Fig. G986.

Iron and Hose.

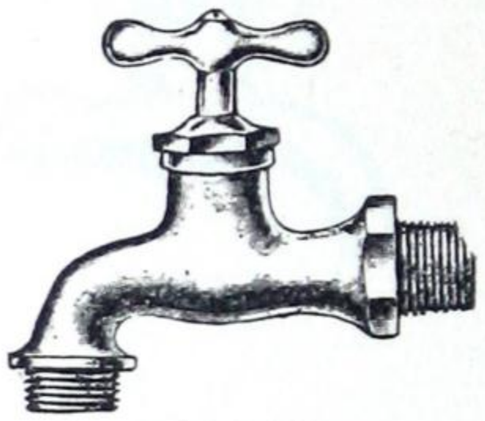


Fig. G987.

Iron Pipe—Solid Flange.

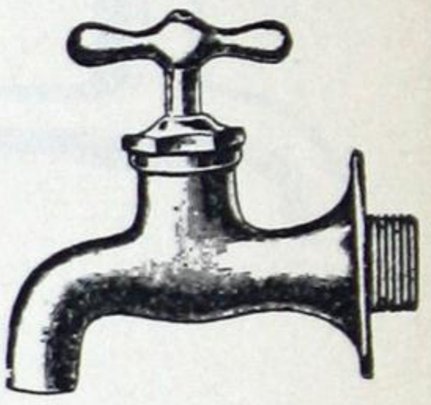


Fig. G988.

With Flange Nut and Bent Coupling.

Plain.

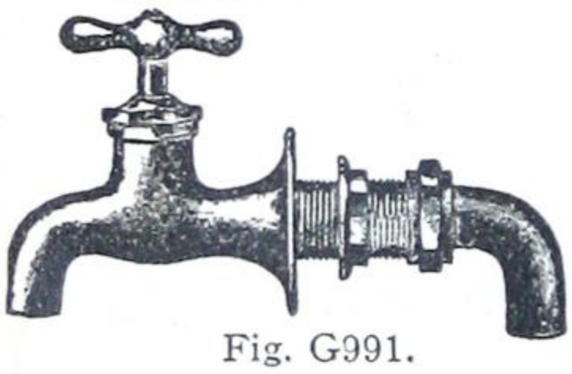


Fig. G991.

For Hose.

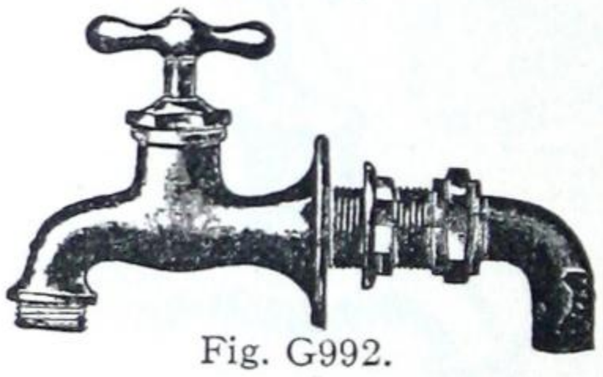


Fig. G992.

Iron Pipe—Adjustable Flange.

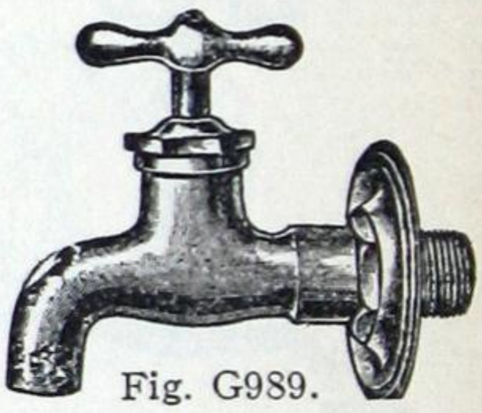


Fig. G989.

Stuffing Box.

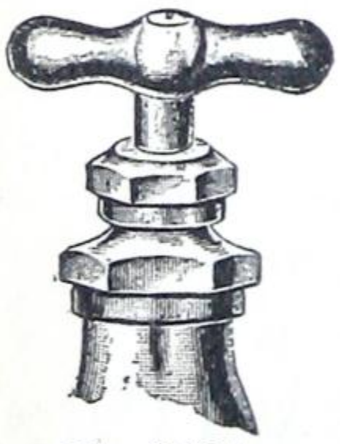


Fig. G994.a

Loose Key.

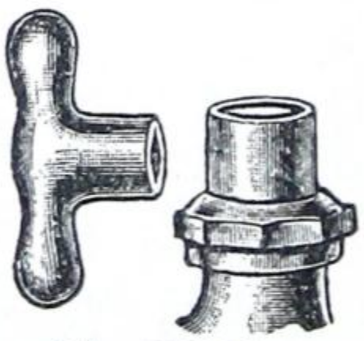


Fig. G994.b

China Button Four Arm Handle.

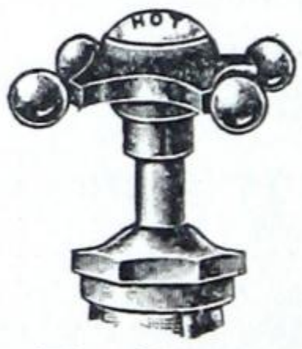


Fig. G995.a

All China Four Arm Handle



Fig. G995.b

Iron Pipe Set Screw Flange.

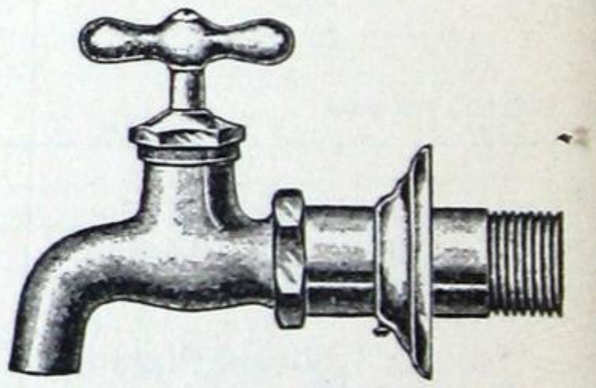


Fig. G990.

COMPRESSION WASH TRAY BIBBS.

Iron Pipe—Solid Flange.



Fig. G993.a

Stub Pattern.

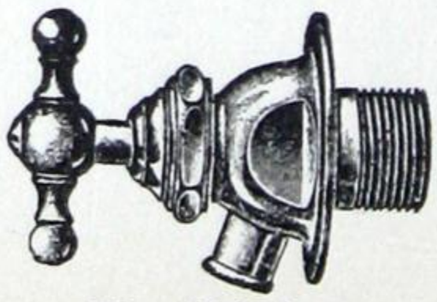


Fig. G993.b

With Flange Nut and Bent Coupling—for Lead or Iron Pipe.



Fig. G993.c

COMPRESSION BIBBS.

Size, Inches				¼	⅜	½	⅝	¾	1	1¼	1½	2
Fig.	G981	Finished	per dozen	$19.20	$19.80	$21.00	$27.00	$35.40	$63.60	$119.40	$159.00	$315.00
"	"	Nickel Plated	"	22.80	23.40	24.60	30.60	39.60	69.60	130.20	174.00	345.00
"	G982	Finished	"	18.00	18.60	19.80	25.20	33.00	60.00	114.00	150.00	300.00
"	"	Nickel Plated	"	21.60	22.20	23.40	28.80	37.20	66.00	124.80	165.00	330.00
"	G984	Finished	"	.....	26.40	27.60	34.20	43.80	76.20	.....	.....	.....
"	"	Nickel Plated	"	.....	30.00	31.20	37.80	48.00	82.20	.....	.....	.....
"	G986	Finished	"	.....	22.80	24.00	30.00	38.40	70.80	130.20	174.00	337.20
"	"	Nickel Plated	"	.....	26.40	27.60	33.60	42.60	76.80	141.00	189.00	367.20
"	G987	Finished	"	.....	21.60	22.80	28.20	36.00	67.20	124.80	165.00	322.20
"	"	Nickel Plated	"	.....	25.20	26.40	31.80	40.20	73.20	135.60	180.00	352.20
"	G988	Finished	"	.....	24.60	25.80	32.40	42.00	73.20	.....	.....	.....
"	"	Nickel Plated	"	.....	28.20	29.40	36.00	46.20	79.20	.....	.....	.....
"	G989	Finished	"	.....	.....	29.40	37.20	46.80	82.20	.....	.....	.....
"	"	Nickel Plated	"	.....	.....	33.00	40.80	51.00	88.20	.....	.....	.....
"	G990	Finished	"	.....	.....	29.40	36.00	45.60	81.60	.....	.....	.....
"	"	Nickel Plated	"	.....	.....	33.00	39.60	49.80	87.60	.....	.....	.....
"	G991	Finished	"	.....	30.60	34.80	45.00	60.00	105.00	.....	.....	.....
"	"	Nickel Plated	"	.....	34.20	38.40	48.60	64.20	111.00	.....	.....	.....
"	G992	Finished	"	.....	33.60	37.80	48.00	63.00	112.20	.....	.....	.....
"	"	Nickel Plated	"	.....	37.20	41.40	51.60	67.20	118.20	.....	.....	.....
Add for Hose End			"	.....	3.00	3.00	3.00	3.00	7.20	10.80	15.00	22.20
Fig.	G994a	Add for Stuffing Box..	"	3.60	4.20	4.80	5.40	6.00	10.80	18.60	22.20	33.60
"	G994b	" Loose Key...	"	.....	4.80	5.40	6.00	7.20	24.00	.....	.....	.....
"	G995a	Add for China Button Four Arm Handle.....	"	.....	.....	9.00	8.40	8.40	.....	.....	.....	.....
"	G995b	Add for All China Four Arm Handle.....	"	.....	.....	15.00	14.40	14.40	.....	.....	.....	.....

COMPRESSION WASH TRAY BIBBS.

Size, Inches				½	⅝	¾
Fig.	G993a	Finished	per dozen	$25.80	$32.40	$42.00
"	"	Nickel Plated	"	29.40	36.00	46.20
"	G993b	Finished	"	18.60	24.00	.....
"	"	Nickel Plated	"	22.20	27.60	.....
Fig.	G993c	Finished	"	34.80	45.00	60.00
"	"	Nickel Plated	"	38.40	48.60	64.20

COMPRESSION BATH BIBBS.

Lead Pipe.

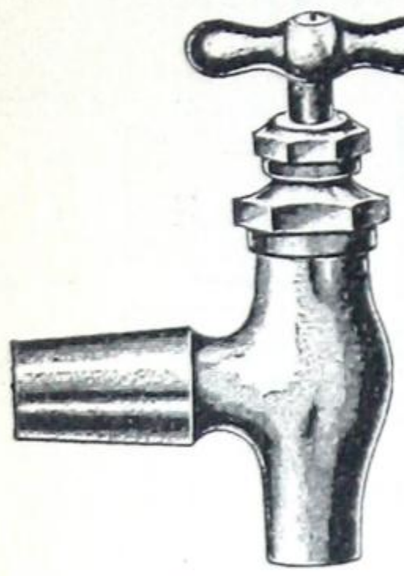


Fig. G996.

Iron Pipe.

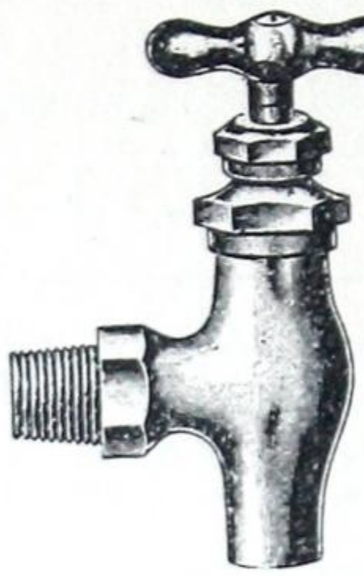


Fig. G997a

Iron Pipe—Solid Flange.

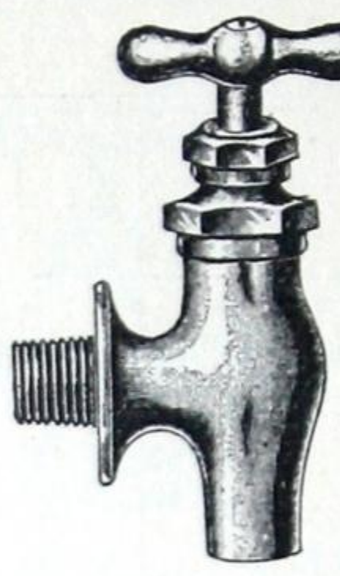


Fig. G997b

With Flange Nut and Bent Coupling.

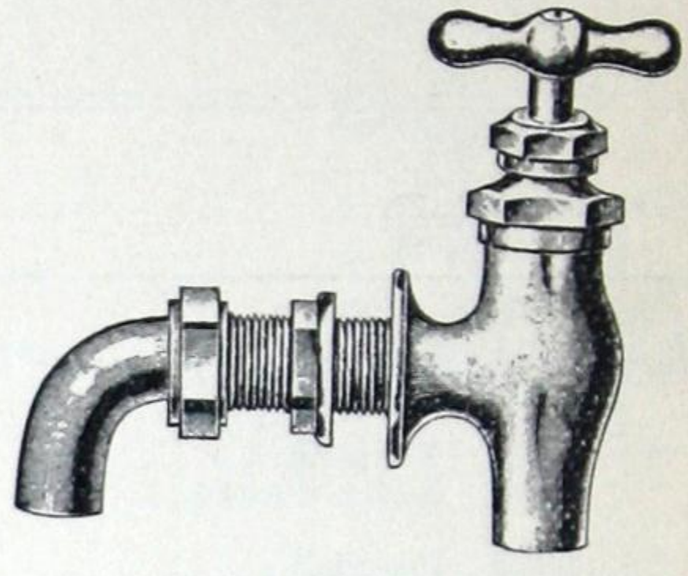


Fig. G998.

Size, Inches			½	⅝	¾	1
Fig. G996	Finished	per dozen	$30.60	$38.40	$53.40	$89.40
" "	Nickel Plated	"	34.20	42.00	57.60	95.40
Fig. G997a	Finished	"	29.40	36.60	51.00	85.80
" "	Nickel Plated	"	33.00	40.20	55.20	91.80
Fig. G997b	Finished	"	35.40	43.80	60.00	99.00
" "	Nickel Plated	"	39.00	47.40	64.20	105.00
Fig. G998	Finished	"	44.40	56.40	78.00	130.80
" "	Nickel Plated	"	48.00	60.00	82.20	136.80

Lead Pipe.



Fig. G1001.

COMPRESSION URINAL COCKS.

Size, Inches			½
Fig. G1001	Finished	per doz	$28.20
" "	N.P.	"	31.80
" G1002	Finished	"	27.00
" "	N.P.	"	30.60

Iron Pipe.

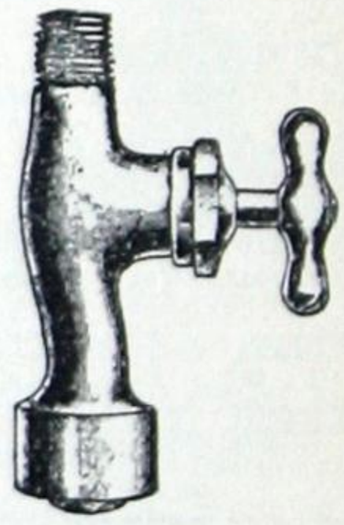


Fig. G1002.

COMP. BOILER DRAIN COCK.

Iron Pipe—Male.



Fig. G1003.

Rough Nickel Plated.

½" x ½" per doz.....$17.40
⅜" x ¾" " 19.80
⅝" x ¾" " 22.80

Wheel Handle.



Fig. G1004.

COMPRESSION SILL COCKS.

½" or ¾"

	Rough Nickel Plated
Wheel Hdle, per doz...	$34.80
Loose Key, per doz...	34.80

Loose Key.



Fig. G1005.

COMPRESSION STOP COCKS.

Lead Pipe.

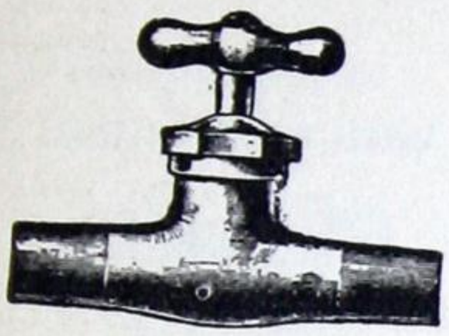


Fig. G1006.

Lead and Iron.

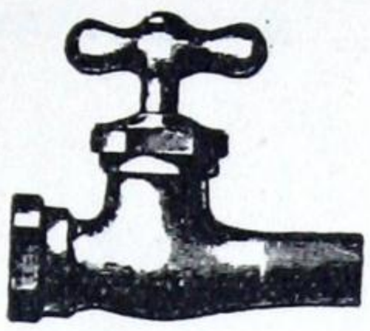


Fig. G1007.

Iron.

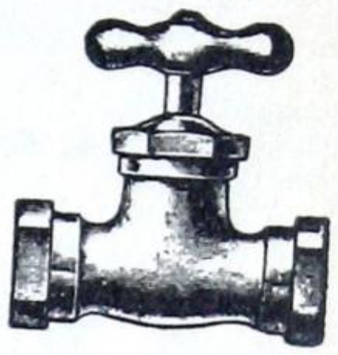


Fig. G1008.

STOP AND WASTE.

Iron Pipe—Reversible Pattern. Iron Wheel.

Lead Pipe, with Stuffing Box.

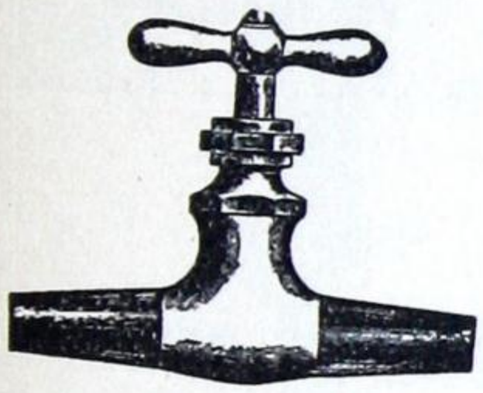


Fig. G1009.

Iron Pipe.

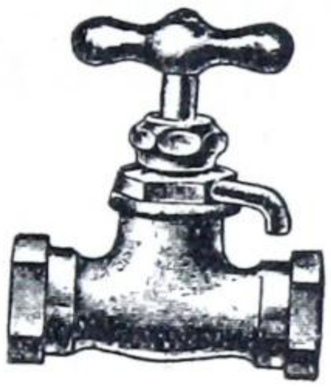


Fig. G1010.



Fig. G1011.

Size, Inches				$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig.	G1006	Finished	per dozen	$18.00	$18.60	$22.20	$28.80	$37.80	$67.20	$124.80	$168.00	$330.00
"	"	Nickel Plated	"	21.60	22.20	25.80	32.40	42.00	73.20	135.60	183.00	360.00
"	G1007	Finished	"	16.80	17.40	21.00	27.00	35.40	63.60	119.40	159.00	315.00
"	"	Nickel Plated	"	20.40	21.00	24.60	30.60	39.60	69.60	130.00	174.00	345.00
"	G1008	Finished	"	15.60	16.20	19.80	25.20	33.00	60.00	114.00	150.00	300.00
"	"	Nickel Plated	"	19.20	19.80	23.40	28.80	37.20	66.00	124.80	165.00	330.00
"	G1009	Add for Stuffing Box	"	3.60	4.20	4.80	5.40	6.00	10.80	18.60	22.20	33.60
"	G1010	Rough	"	.....	25.80	29.40	35.40	43.80	76.80	142.80	188.40	351.60
"	G1011	"	"	.....	28.80	32.40	38.40	46.80	84.00	156.00	208.20	381.00
Add to list for Compression Stop Cocks with Loose Key				.....	4.80	5.40	6.00	7.20	24.00	.....	.....	.....
Add to list for Compression Stop Cocks with Wheel Handle				.....	4.80	5.40	6.00	7.20	24.00	.....	.....	.....
Add for China Button Four Arm Handle				.....	.....	9.00	8.40	8.40	.....	.....	.....	.....
Add for All China Button Four Arm Handle				.....	.....	15.00	14.40	14.40	.....	.....	.....	.....

ANGLE STOPS (Not Illustrated) Same List as Straight:

COMPRESSION HYDRANT COCKS.

Without Stuffing Box, Lead Pipe (or Iron Pipe).

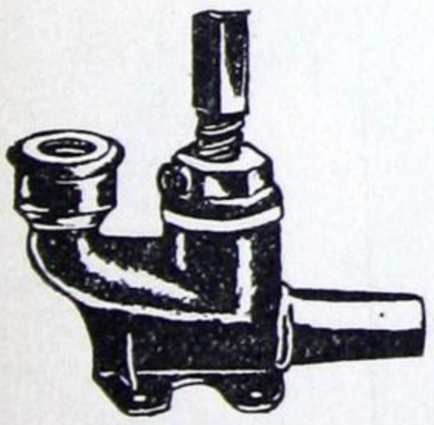


Fig. G1016.

With Stuffing Box, Iron Pipe (or Lead Pipe).

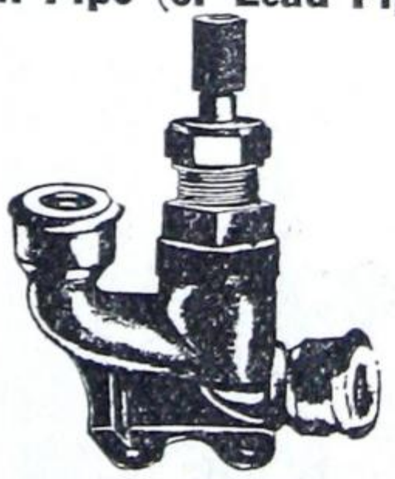


Fig. G1017.

Size, Inches				$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig.	G1016	Rough	Per dozen	$36.60	$47.40	$58.20	$96.00
"	G1017	"	"	40.20	53.40	65.40	105.60

COMPRESSION BASIN COCKS.

NICKEL PLATED.

No. 0.

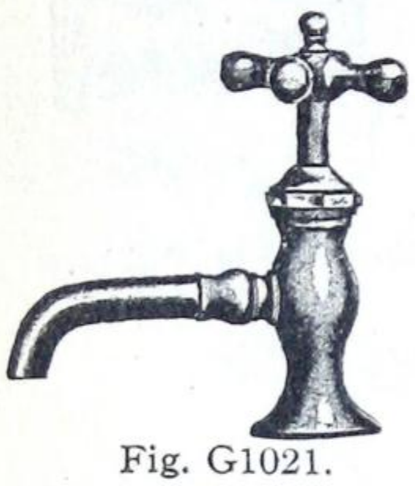


Fig. G1021.

Per dozen..... $27.60

No. 1.



Fig. G1022.

Per dozen..... $29.40

No. 1 With Stuffing Box.

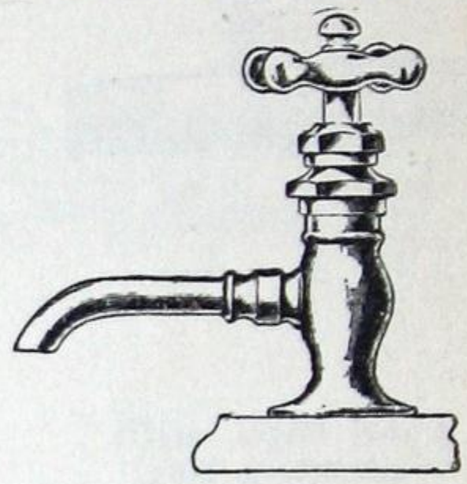


Fig. G1023.

Per dozen..... $33.60

Low Down, with China Index.



Fig. G1026.

Per dozen..... $32.40

If with Solid China Cross Handle, add to list $6.00 per dozen.

Half Low Down, with China Index.

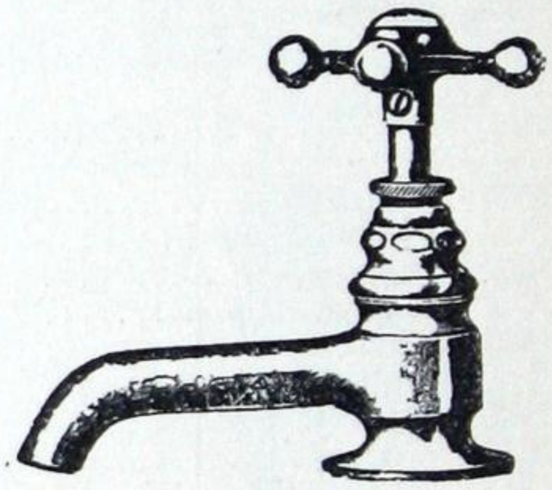


Fig. G1027.

Per dozen..... $47.40

Double.

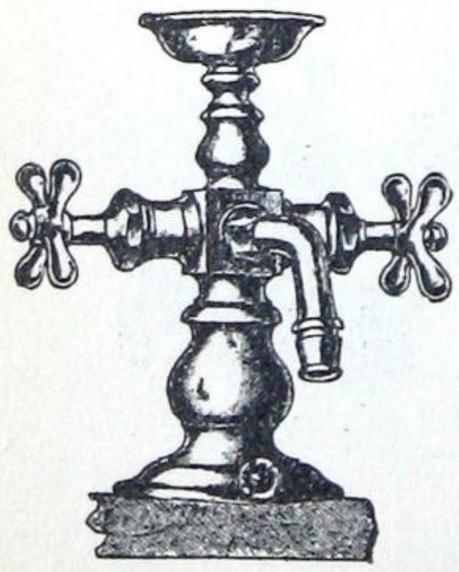


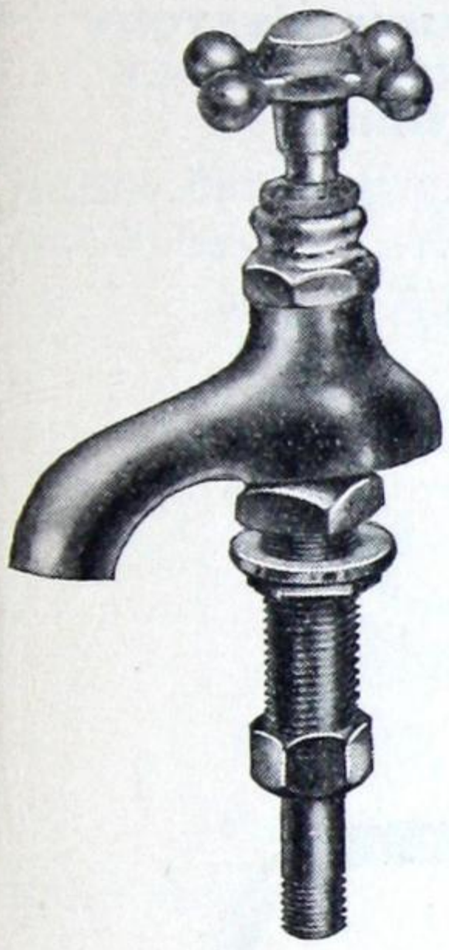
Fig. G1028.

Cross Handles	Each	$13.75
Add for Stuffing Boxes (2)	Each Cock	.70
" Oval Cup	Each	1.00
" China Button, 4 Arm Handles (2)	Each Cock	1.60

BASIN COCKS.

Nickel Plated.

KINGDON No. 2.
Compression.



For All China Four Arm Handle
Add.....per doz. $6.00

Fig. G1029a
Per dozen..... $36.00

KINGDON No. 1.
Compression.

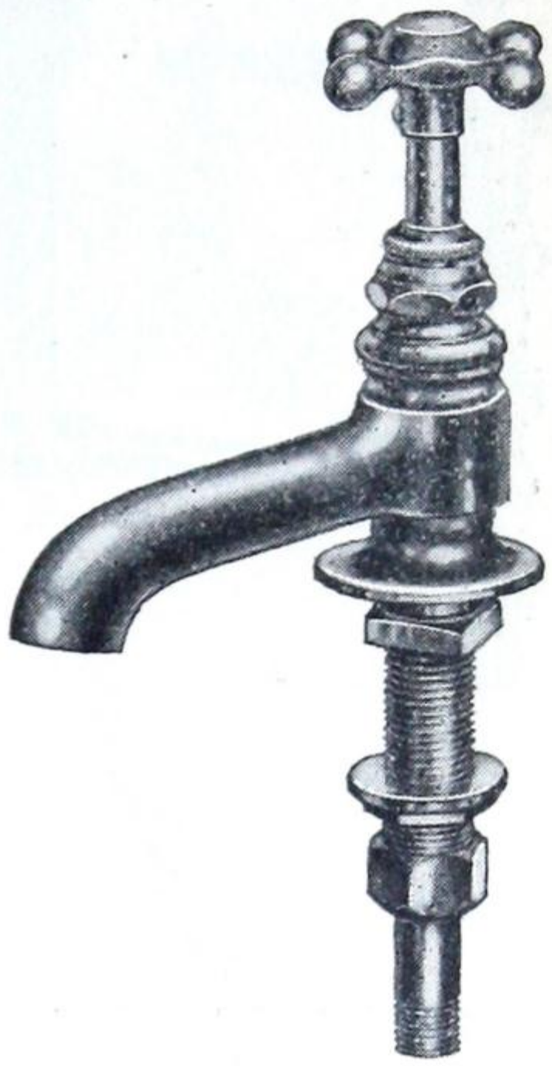


Fig. G1029b
Per dozen..... $50.00

QUICK COMPRESSION.

"Accelo" with Solid China Handle.

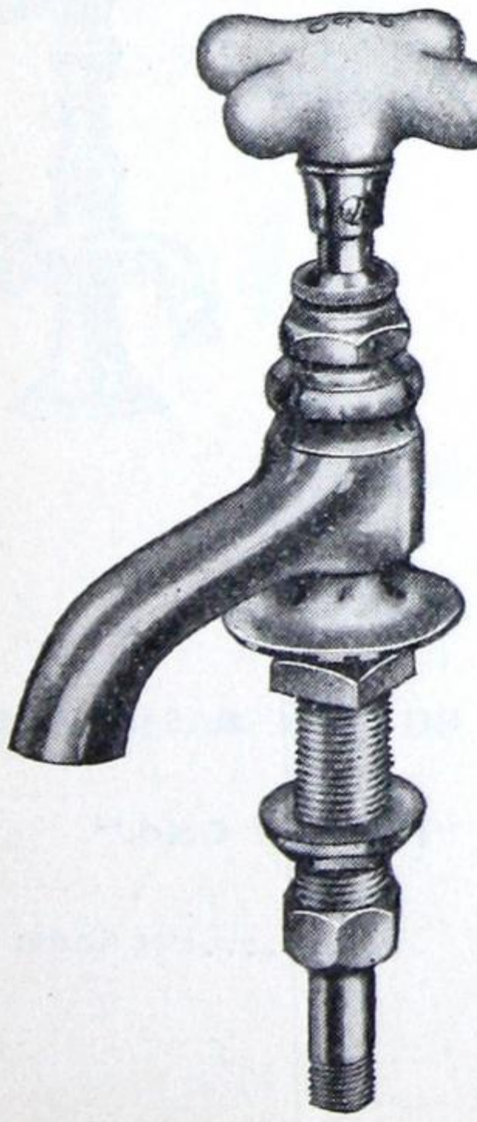


Fig. G1030a
Per dozen..... $50.00

"Accelo" with China Lever Handle.



Fig. G1030b
Per dozen..... $50.00

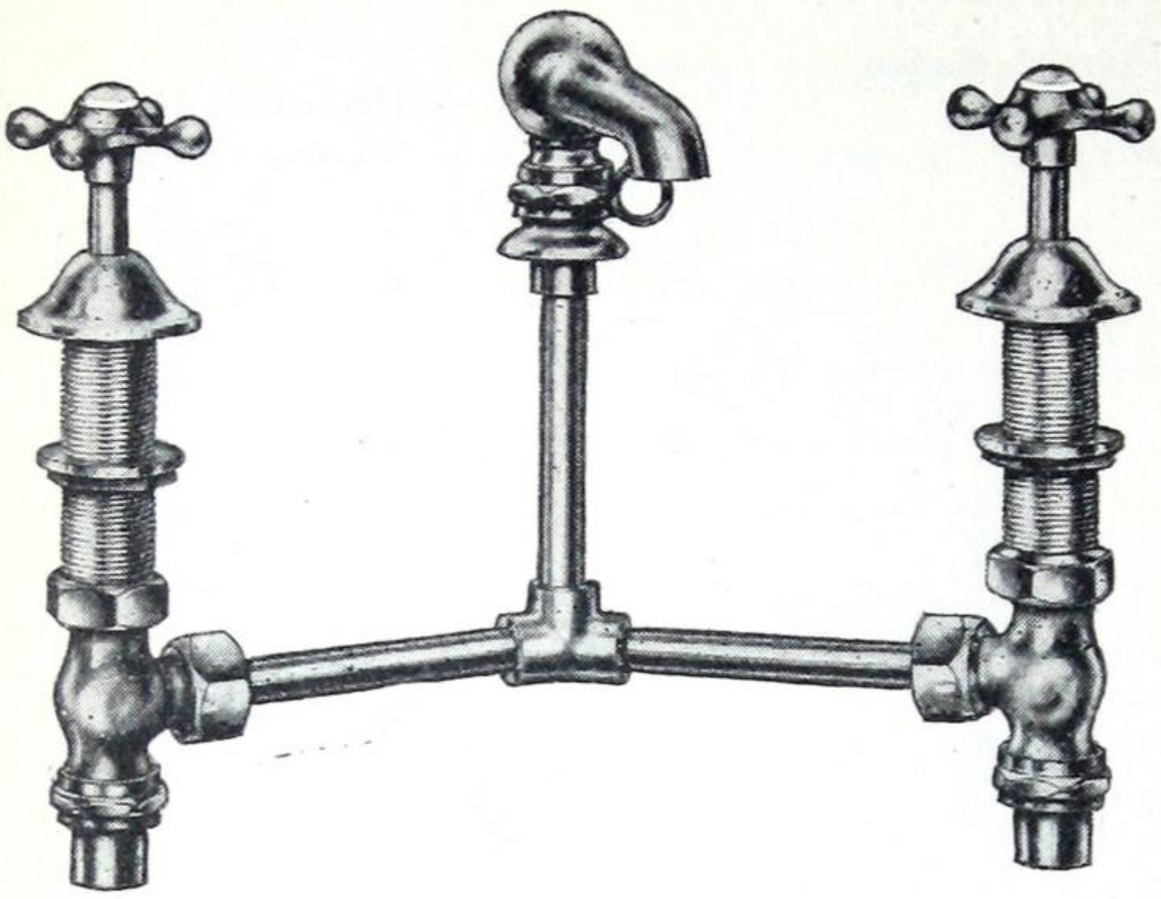


Fig. 1033.a

COMPRESSION LAVATORY SINGLE SPOUT SUPPLY FIXTURE.

Nickel Plated.....each $15.00

COMPRESSION DOUBLE BASIN AND SHAMPOO COCK— COMBINATION.

Finished or Nickel Plated..each $27.00
Add for Stuffing Boxes (Four) each Cock..... 1.40
Add for China Button Four Arm Handles (Four), each Cock 3.20

Sprinkler included in Price.
Tubing Extra.

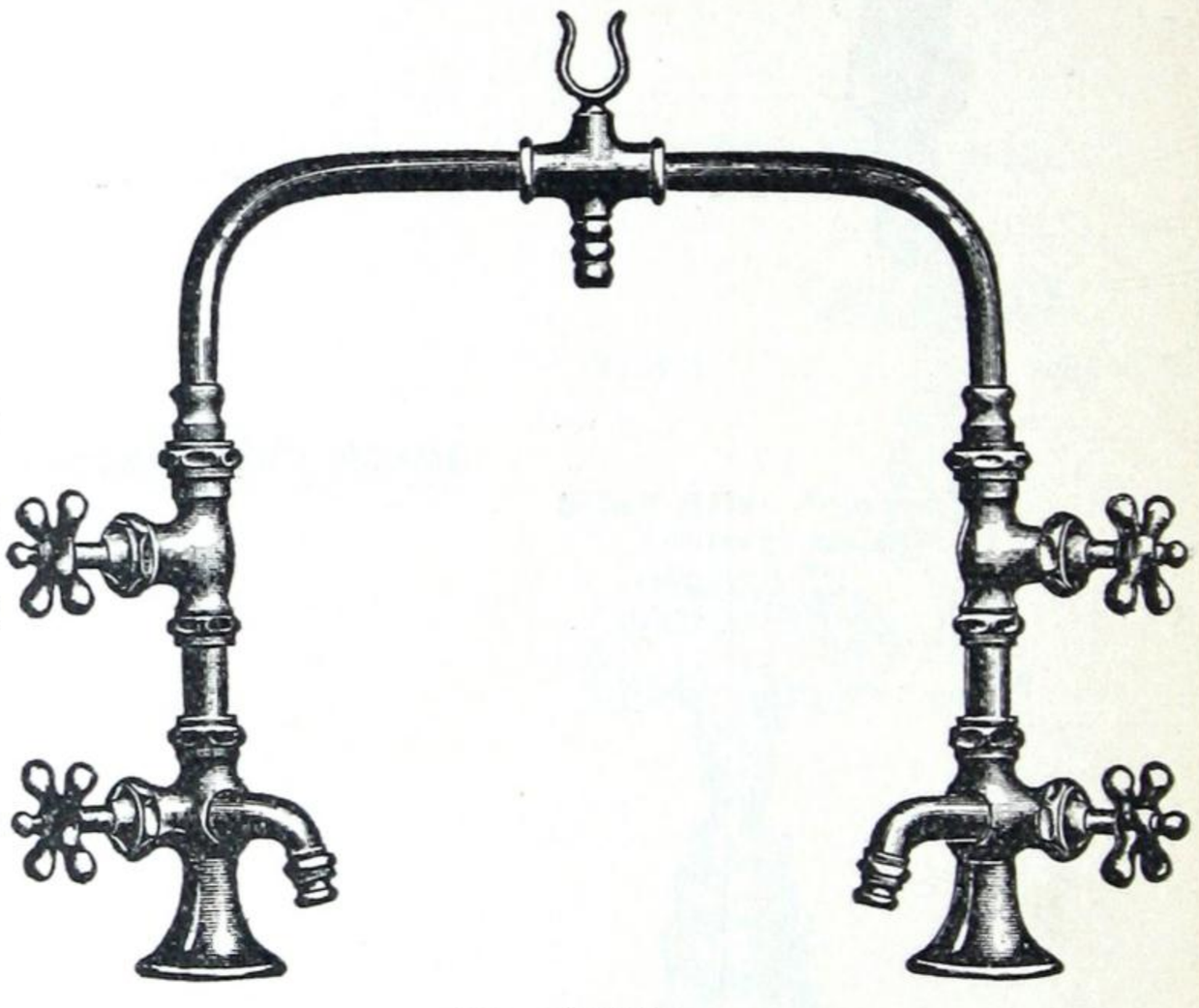


Fig. G1033.b

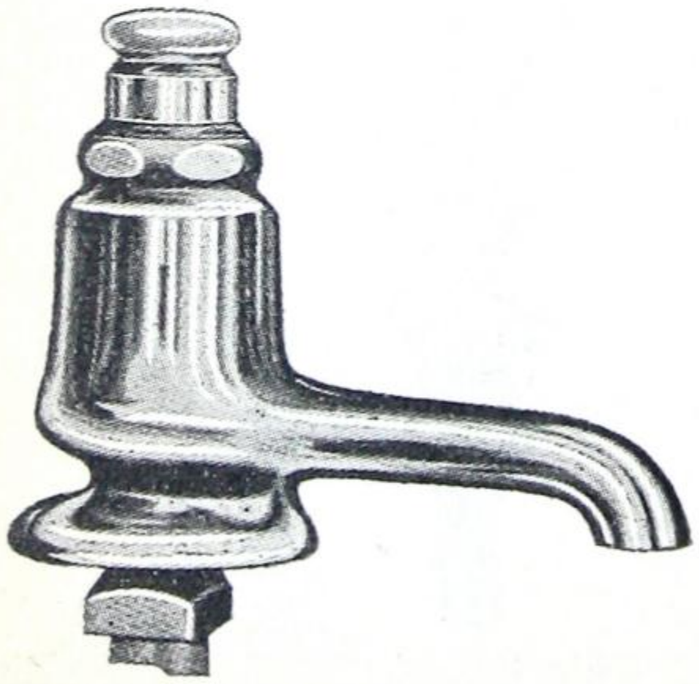


Fig. G1033.c

WATROUS No. 7 PUSH BUTTON BASIN COCK

With China Index "Hot and Cold."

Nickel Plated.....Per dozen $60.00

QUICK OPENING COMPRESSION BASIN COCK

China Lever Handle.

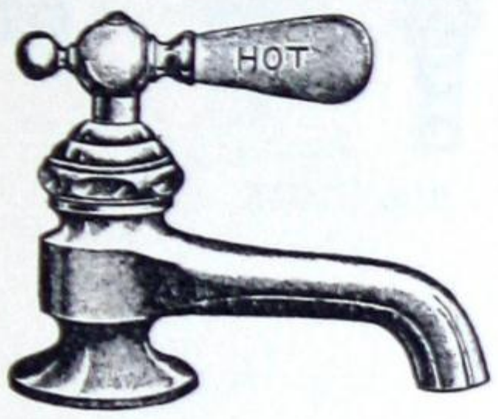


Fig. G1034.

Nickel Plated.....per dozen $45.00

QUICK COMPRESSION "ACCELO" SLOP SINK COCK.

With Pail Brace.

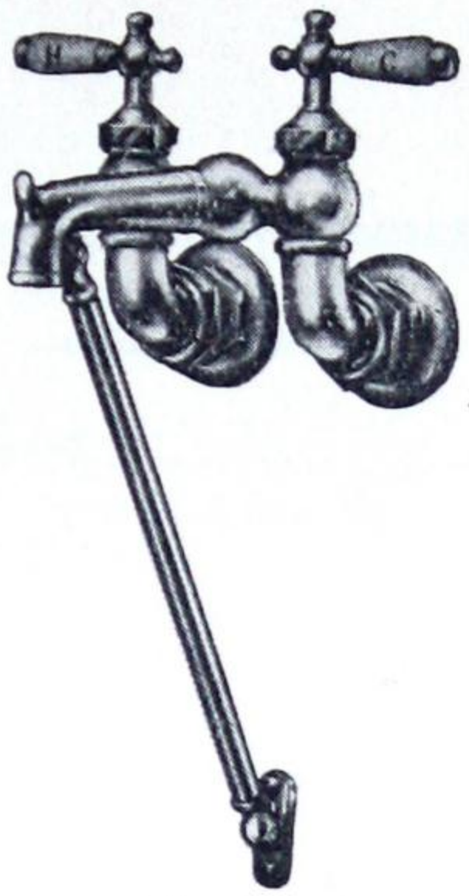


Fig. G1035.

Nickel Plated.....each $15.00
If with Brass Handles, deduct..... 1.50

COMPRESSION PANTRY COCKS.

NICKEL PLATED.

Single.



Fig. G1036.

Per Doz.....$48.00
Add for Stuffing Box.....per dozen 4.20
" Hose End..... " " 3.60
" Index Handle..... " " 9.60

Double.



Fig. G1037.

Each.....$12.50
Add for Stuffing Boxes (2).....each Cock .70
" China Button Four Arm Handles (2).... " " 1.60
" Hose End..... " " .30

COMPRESSION DOUBLE BATH COCK

With Cross Handles.

Nickel Plated.....Price each $7.20

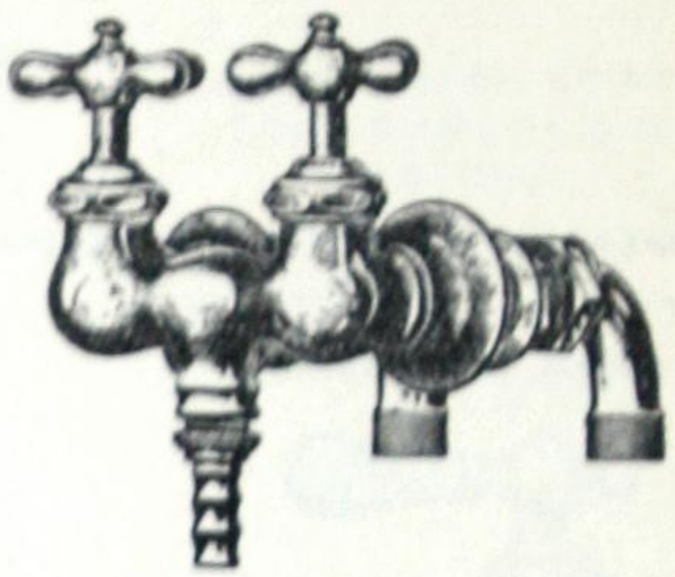


Fig. G1031.

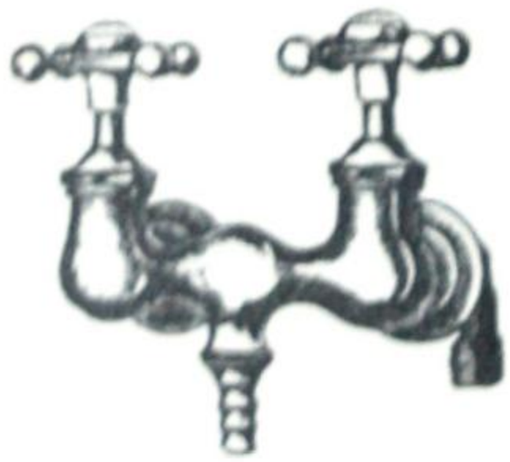


Fig. G1032a

COMPRESSION DOUBLE BATH COCK

With China Index.

Nickel Plated.....Price each $8.20
Add for all China Four Arm Handle..... 1.00

QUICK OPENING COMPRESSION DOUBLE BATH COCK.

With China Lever Handle.

Nickel Plated.....Price each $10.40

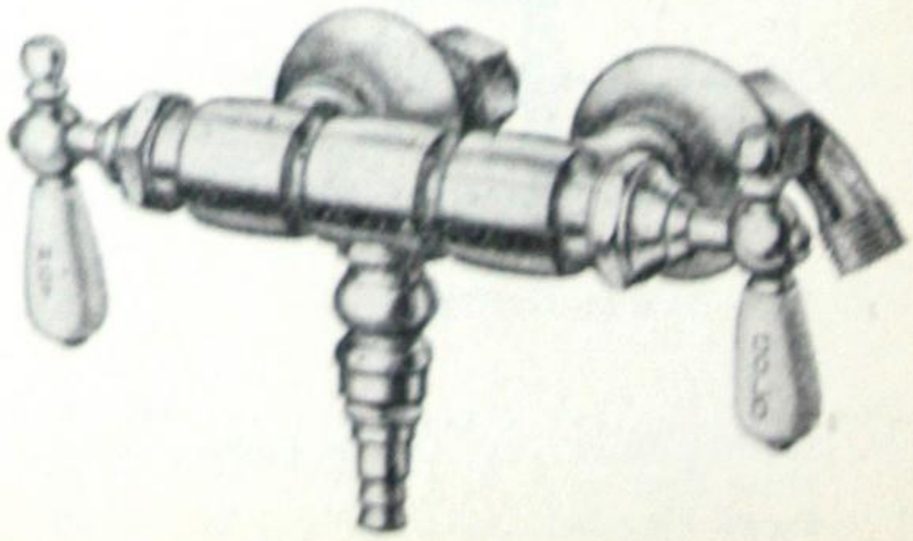


Fig. G1032b

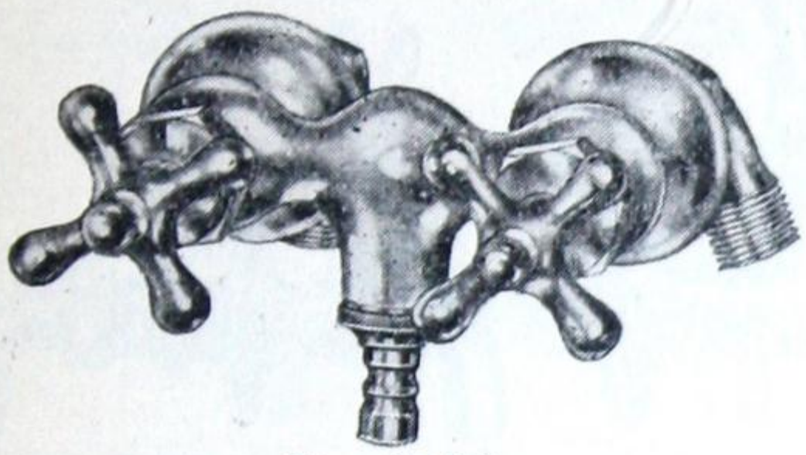


Fig. G1038.

COMPRESSION "KINGDON" DOUBLE BATH COCK.

Nickel Plated.....Price each $7.20
Add for Index Handles.....each Cock 2.00
" Solid China Four Arm Handle..... 3.00

QUICK COMPRESSION "ACCELO" DOUBLE BATH COCK.

Nickel Plated.....Price each $8.90.



Fig. G1039.

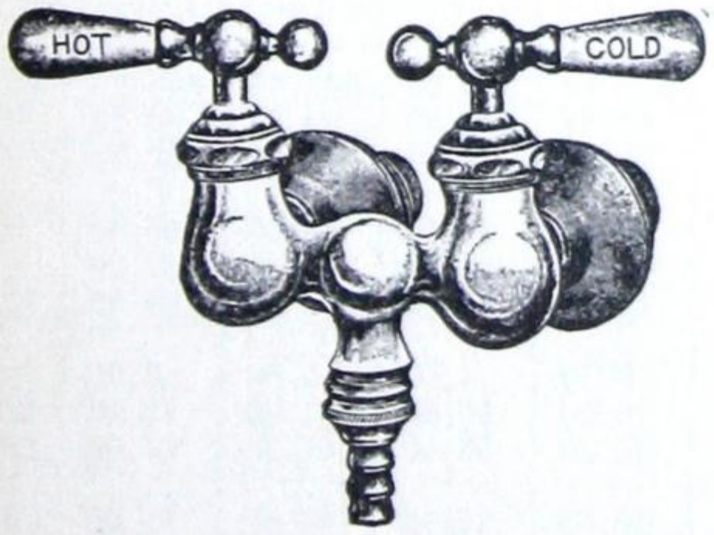


Fig. G1040

QUICK OPENING COMPRESSION BATH COCK.

With Finished Iron Pipe Male Couplings

Nickel Plated.....Price each $8.90

DOHERTY SELF-CLOSING BIBBS.

Lead Pipe.

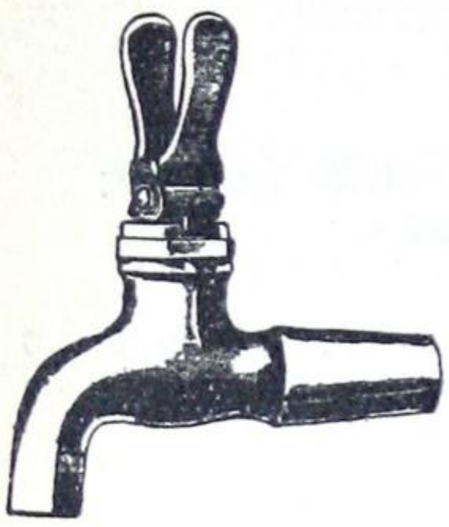


Fig. G1041.

Iron Pipe.

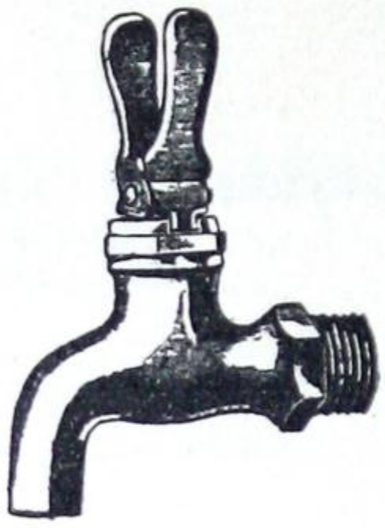


Fig. G1042a

Iron Pipe Solid Flange.



Fig. G1042b

Flange Nut and Bent Coupling.

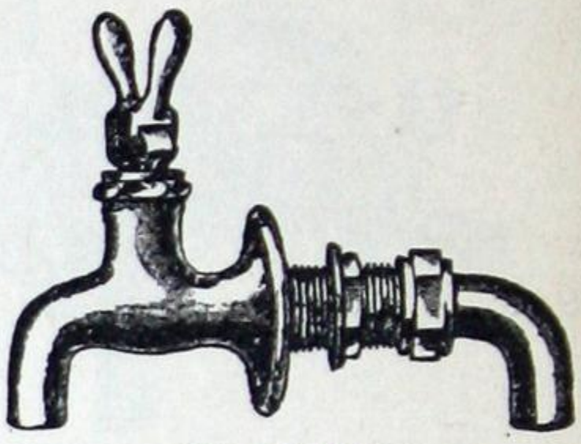


Fig. G1043.

Stop-Lead Pipe.



Fig. G1044.

Stop-Iron Pipe.

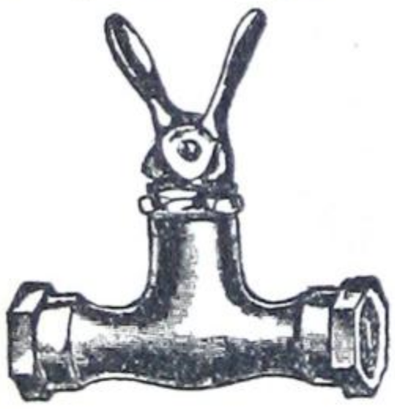


Fig. G1045.

BASIN COCK.



Fig. G1046.

Nickel Plated
per dozen.....$54.60

URINAL COCK.



Fig. G1047.

For.....	Lead	Iron
Fin., p. doz.	$47.40	$46.20
N. P. "	53.40	52.20

PANTRY COCK.



Fig. G1048.

Nickel Plated
per dozen.....$69.60
Add for Hose End 3.60

Size, Inches.....			⅜	½	⅝	¾	1
Fig. G1041	Finished.....	per dozen	$35.40	$36.60	$43.80	$54.60	$87.60
" "	Nickel Plated.....	"	41.40	42.60	49.80	62.40	97.80
" G1042a	Finished.....	"	34.20	35.40	42.00	52.20	84.00
" "	Nickel Plated.....	"	40.20	41.40	48.00	60.00	94.20
" G1042b	Finished.....	"	40.20	41.40	49.20	61.20	97.20
" "	Nickel Plated.....	"	46.20	47.40	55.20	69.00	107.40
Add for Hose.....		"	3.00	3.00	3.00	3.00	7.20
Fig. G1043	Finished.....	"	46.20	50.40	61.80	79.20	129.00
" "	Nickel Plated.....	"	52.20	56.40	67.80	87.00	139.20
" G1044	Finished.....	"	36.60	37.80	45.60	57.00	91.20
" "	Nickel Plated.....	"	42.60	43.80	51.60	64.80	101.40
" G1045	Finished.....	"	34.20	35.40	42.00	52.20	84.00
" "	Nickel Plated.....	"	40.20	41.40	48.00	60.00	94.20

BOSTON SELF-CLOSING COCKS.

BIBBS.

Lead Pipe.

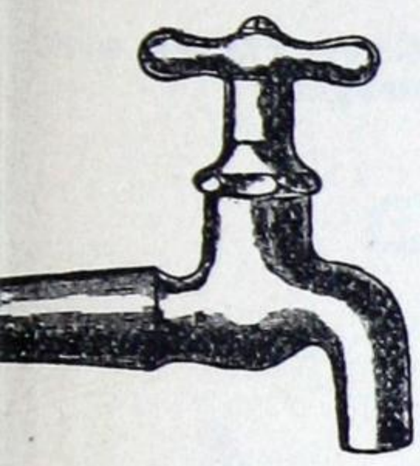


Fig. G1051.

Iron Pipe.

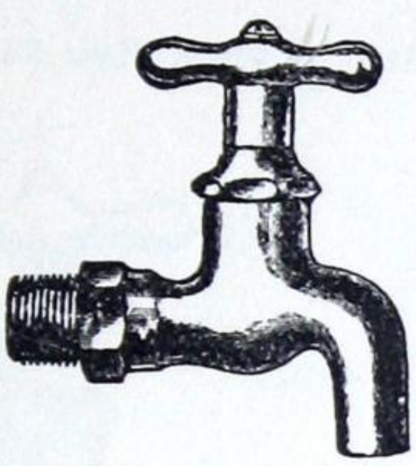


Fig. G1052a

Iron Pipe. Solid Flange.

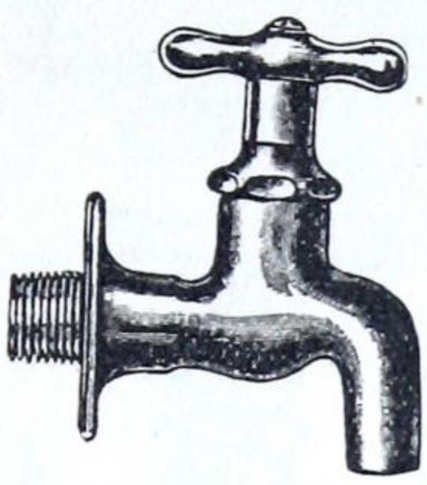


Fig. G1052b

Flange Nut and Bent Coupling.

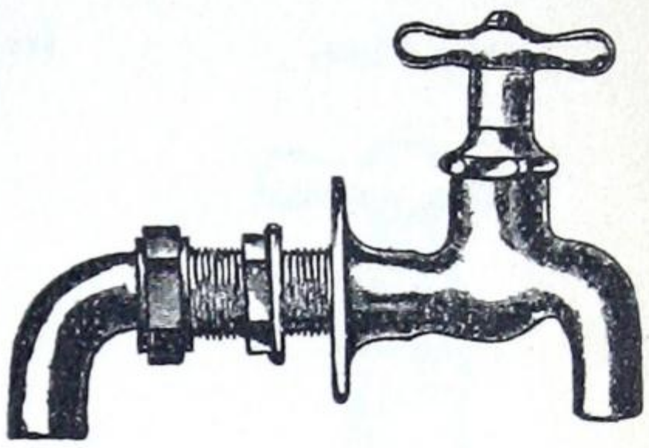


Fig. G1053.

Stop-Lead Pipe.

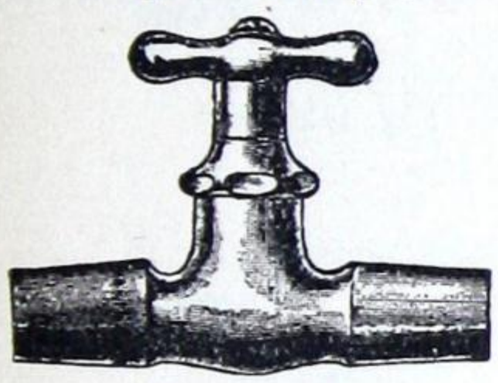


Fig. G1054.

Stop-Iron Pipe.

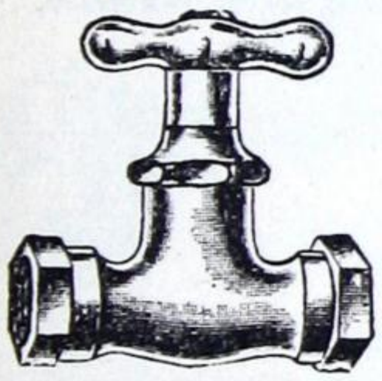


Fig. G1055.

BASIN COCK.



Fig. G1056.

Nickel Plated,
per doz.....$47.40

URINAL COCK.



Fig. G1057.

For.....	Lead	Iron
Fin., per dz.	$39.00	$37.80
N.P. "	45.00	43.80

PANTRY COCK.

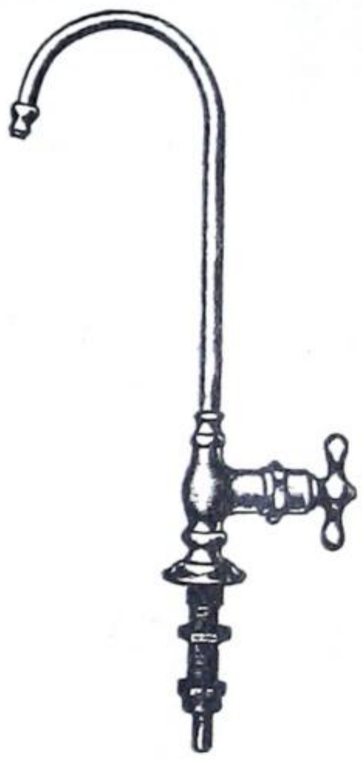


Fig. G1058.

Nickel Plated,
per doz.....$64.80
With China
Button, 4 Arm
Handle..... 75.00
Add for Hose..... 3.60

Size, Inches.....			$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig. G1051	Finished	per dozen	$30.60	$31.80	$39.00	$49.80	$82.80
" "	Nickel Plated	"	36.60	37.80	45.00	57.60	93.00
" G1052a	Finished	"	29.40	30.60	37.20	47.40	79.20
" "	Nickel Plated	"	35.40	36.60	43.20	55.20	89.40
" G1052b	Solid Flange Male, Finished	"	35.40	36.60	44.40	56.40	92.40
" "	" " " Nickel Plated	"	41.40	42.60	50.40	64.20	102.60
Add for Hose End		"	3.00	3.00	3.00	3.00	7.20
Fig. G1053	Finished	"	41.40	45.60	57.00	74.40	124.20
" "	Nickel Plated	"	47.40	51.60	63.00	82.20	134.40
" G1054	Finished	"	31.80	33.00	40.80	52.20	86.40
" "	Nickel Plated	"	37.80	39.00	46.80	60.00	96.60
" G1055	Finished	"	29.40	30.60	37.20	47.40	79.20
" "	Nickel Plated	"	35.40	36.60	43.20	55.20	89.40

BALL OR ROLLER BEARING SELF-CLOSING BIBBS.

Iron Pipe.

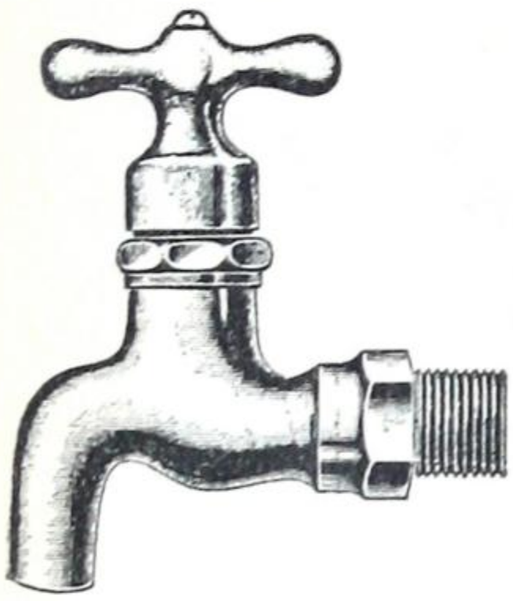


Fig. G1059.a

Iron Pipe—Solid Flange with Hexagon.

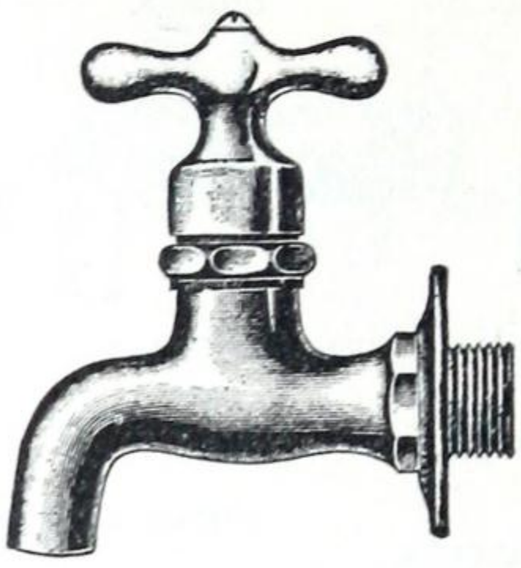


Fig. 1059.b

Iron Pipe Set Screw Flange with Hexagon.

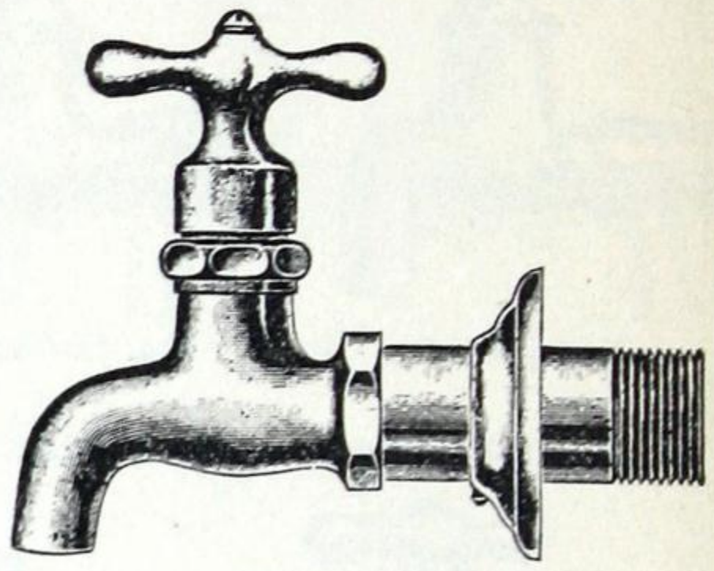


Fig. G1059.c

BASIN COCK—Tee Handle.

STOP—Iron Pipe.

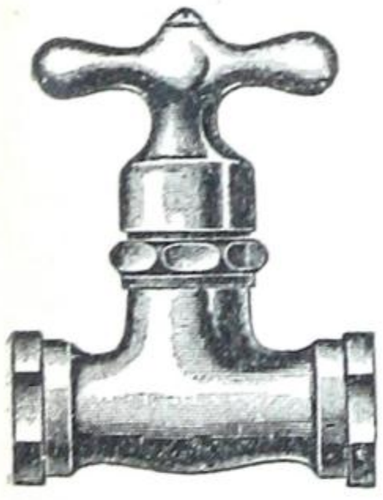


Fig. G1059.d

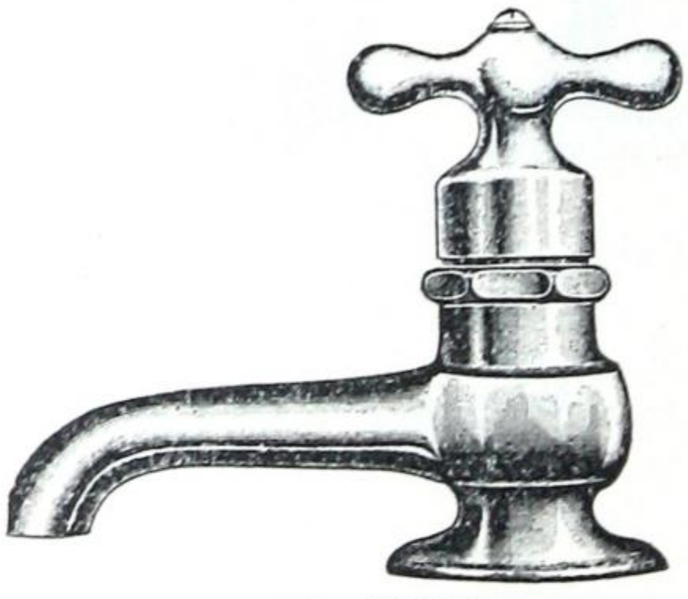


Fig. G1059.e

Nickel Plated . . . . per doz. $57.00

BASIN COCK—China Button Four Arm Handle.

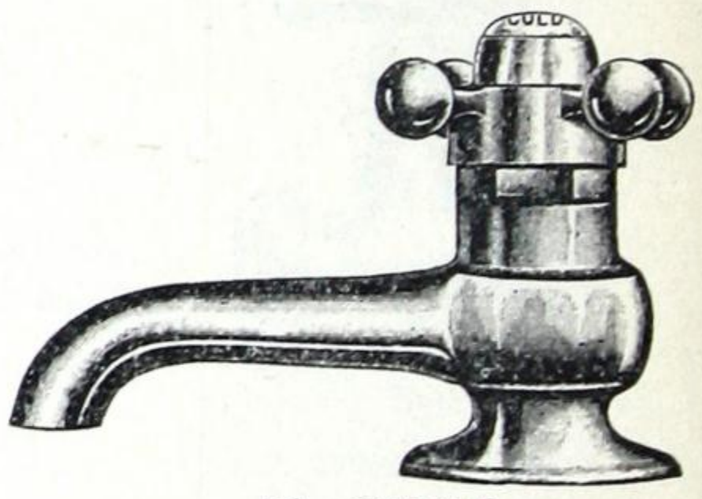


Fig. G1059.f

Nickel Plated . . per doz. $67.20

Size, Inches			⅜	½	⅝	¾	1
Fig. G1059a	Finished	per dozen	$39.00	$40.20	$46.80	$57.00	$88.80
" "	Nickel Plated	"	45.00	46.20	52.80	64.80	99.00
" G1059b	Finished	"	46.80	48.00	55.80	67.80	105.00
" "	Nickel Plated	"	52.80	54.00	61.80	75.60	115.20
" G1059c	Finished	"	.....	49.80	57.60	69.60	110.40
" "	Nickel Plated	"	.....	55.80	63.60	77.40	120.60
" G1059d	Finished	"	39.00	40.20	46.80	57.00	88.80
" "	Nickel Plated	"	45.00	46.20	52.80	64.80	99.00

SELF-CLOSING STOP
With Lever and Chain for Shower.

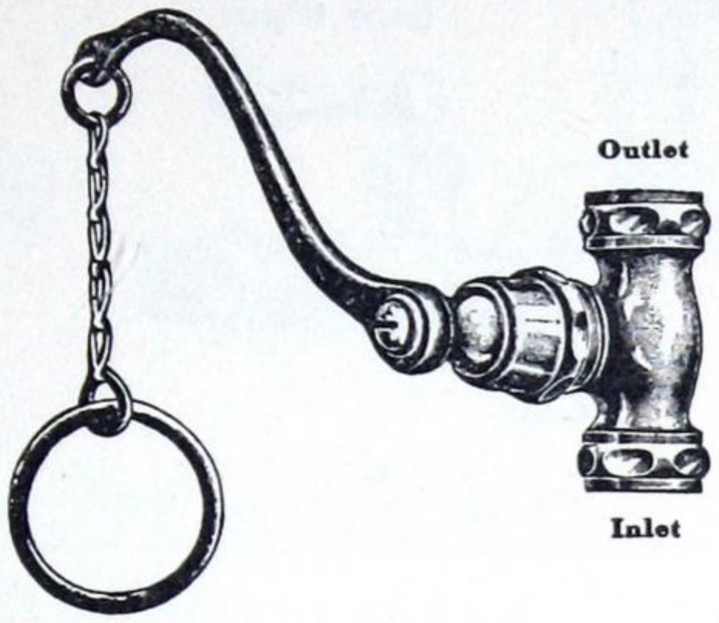


Fig. G1059.g

Size, Inches	½	⅝	¾	1
Finished ..... per dozen	$52.80	$59.40	$76.20	$115.20
Nickel Plated ..... "	58.80	65.40	84.00	125.40

TELEGRAPH SELF-CLOSING BIBBS.

Lead Pipe.

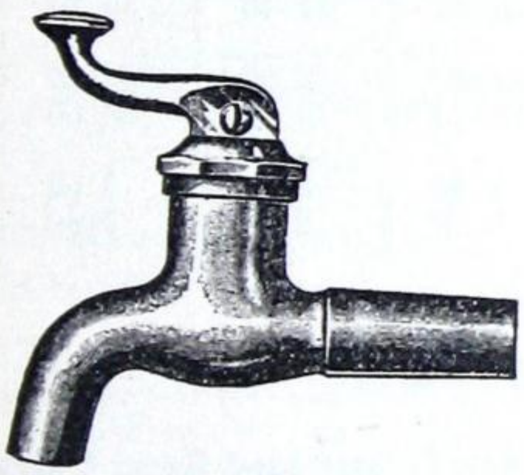


Fig. G1060.a

Iron Pipe.

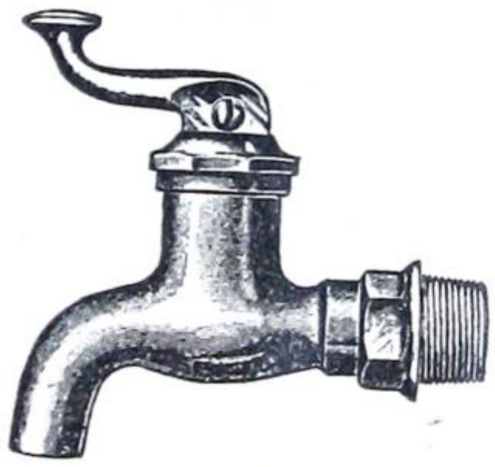


Fig. G1060.b

Iron Pipe, Solid Flange, Male with Hexagon.

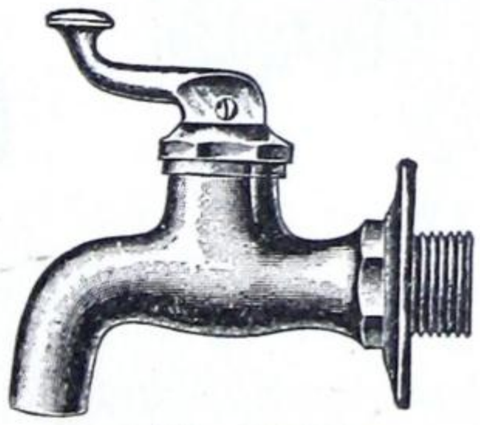


Fig. G1060.c

Size, Inches	⅜	½	⅝	¾	1
For Lead Pipe. Finished ..... per dozen	$25.80	$27.00	$34.20	$45.00	$78.00
" " " Nickel Plated ..... "	31.80	33.00	40.20	52.80	88.20
" Iron Pipe. Finished ..... "	24.60	25.80	32.40	42.60	74.40
" " " Nickel Plated ..... "	30.60	31.80	38.40	50.40	84.60
Solid Flange, Male with Hexagon Iron Pipe, Finished... "	32.40	33.60	41.40	53.40	90.60
" " " " " " " " N.P..... "	38.40	39.60	47.40	61.20	100.80

FULLER BIBBS.

Lead Pipe.

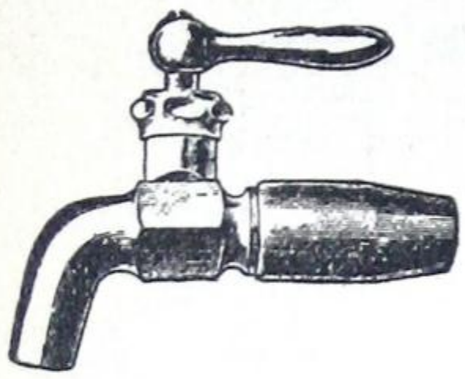


Fig. G1061.

Iron Pipe.

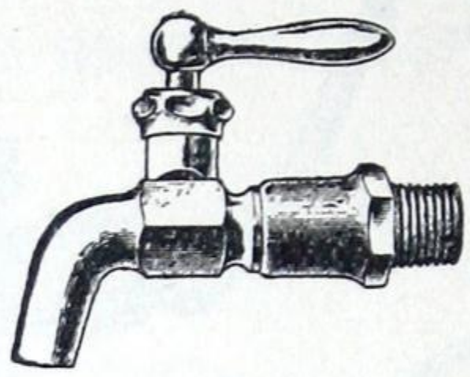


Fig. G1062.

Iron Pipe Solid Flange Male

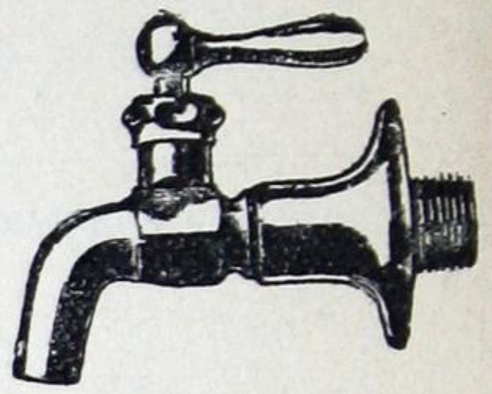


Fig. G1063.

Size, Inches			½	⅝	¾	1
Fig. G1061	Finished	per dozen	$24.60	$29.40	$40.80	$75.60
" "	Nickel Plated	"	29.40	34.20	48.00	84.60
" G1062	Finished	"	23.40	27.60	38.40	72.00
" "	Nickel Plated	"	28.20	32.40	45.60	81.00
Fig. G1063	Finished	"	29.40	34.80	47.40	85.20
" "	Nickel Plated	"	34.20	39.60	54.60	94.20
" "	Finished, Solid Flange with Hexagon	"	31.20	36.60	49.20	88.20
" "	Nickel Plated, " " " "	"	36.00	41.40	56.40	97.20
" "	Finished, with Adjustable Flange	"	30.60	36.60	48.00	87.00
" "	Nickel Plated, " " "	"	35.40	41.40	55.20	96.00
" "	Finished, with Set Screw Flange	"	33.60	39.00	52.80	96.00
" "	Nickel Plated, " " "	"	38.40	43.80	60.00	105.00
" "	Add for Hose End	"	3.60	3.60	3.60	8.40
" "	Add for China Handle	"	9.00	9.00	9.00	9.00

FULLER WASH TRAY BIBBS.

Iron Pipe

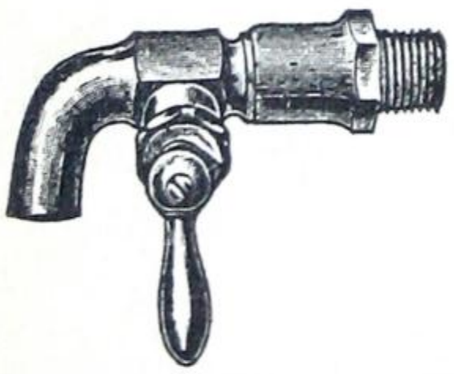


Fig. G1067.

Iron Pipe—Solid Flange.

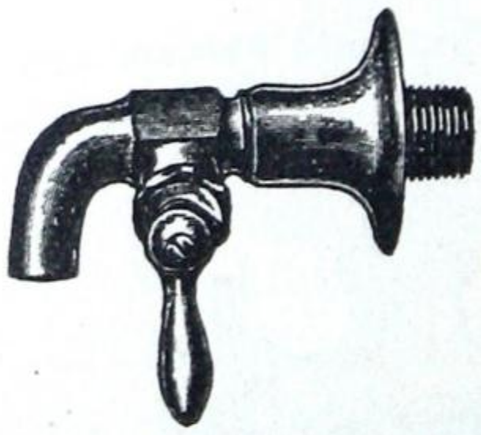


Fig. G1068.

Flange, Nut and Bent Coupling.

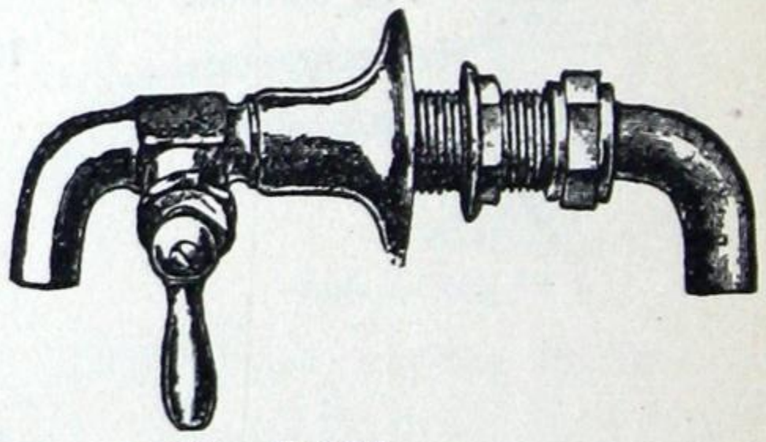


Fig. G1069.

Size, Inches			½	⅝	¾
Fig. G1067	Finished	per dozen	$25.80	$31.20	$43.20
" "	Nickel Plated	"	30.60	36.00	50.40
Fig. G1068	Finished	"	31.80	38.40	52.20
" "	Nickel Plated	"	36.60	43.20	59.40
Fig. G1069	Finished	"	43.80	54.00	75.60
" "	Nickel Plated	"	48.60	58.80	82.80
Add for Hose End		"	9.00	9.00	9.00

FULLER BIBBS.

Extra Long Shank, Iron Pipe with Flange.

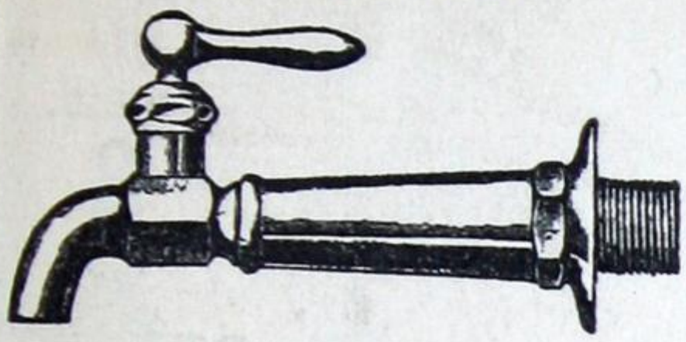


Fig. G1071.

Flange, Nut and Bent Coupling.

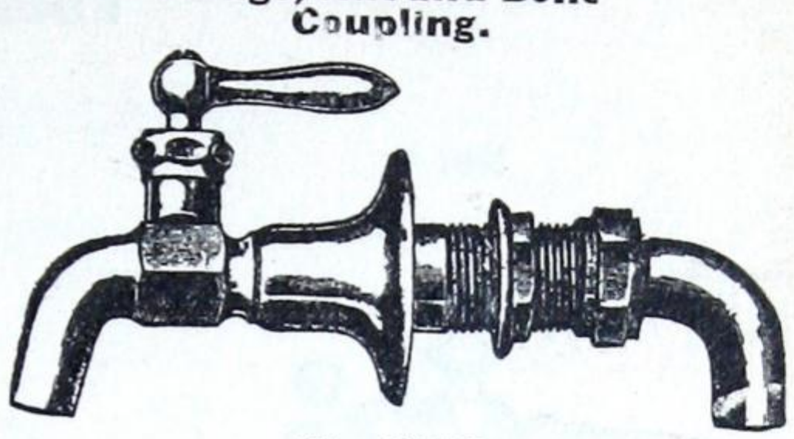


Fig. G1072.

BATH BIBBS.

With Solid Flange.

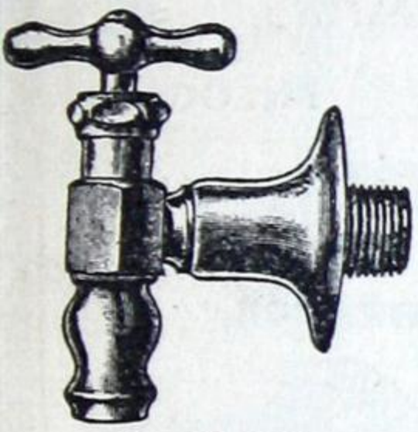


Fig. G1073.

With Flange Nut and Bent Coupling.

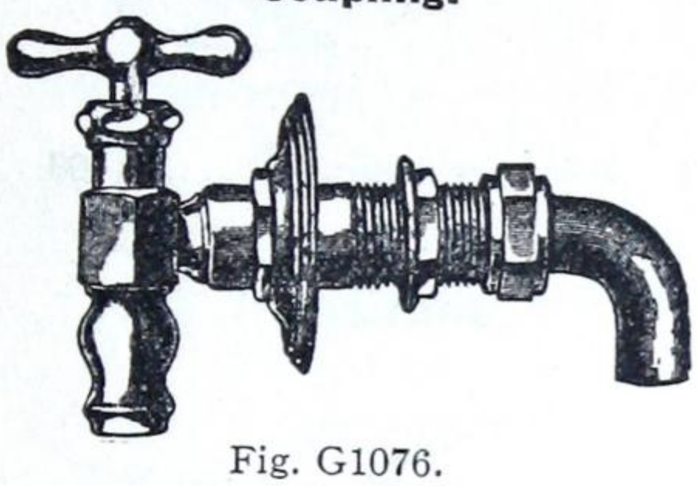


Fig. G1076.

URINAL COCK



Fig. G1077.

ECCENTRIC.



Fig. G1079.

STEM, with Ball.



Fig. G1080.

NOTE.—Measure of Extra Long Shank Cocks—Centre of Spout to Back of Flange.

Size, Inches.....				$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig.	G1071	Finished. up to $6\frac{1}{2}$" long.....	per dozen	$39.60	$48.00	.....	.....
"	"	Nickel Plated " " " "	"	44.40	52.80	.....	.....
"	"	Finished. 7" to 10" "	"	46.80	55.20	.....	.....
"	"	Nickel Plated " "	"	51.60	60.00	.....	.....
"	G1072	Finished.....	"	41.40	50.40	70.80	$126.00
"	"	Nickel Plated.....	"	46.20	55.20	78.00	135.00
"	G1073	Finished.....	"	38.40	46.80	62.40	106.20
"	"	Nickel Plated.....	"	43.20	51.60	69.60	115.20
Fig.	G1076	Finished. Solid Flange.....	"	50.40	62.40	85.80	147.00
"	"	Nickel Plated " "	"	55.20	67.20	93.00	156.00
"	"	Finished. Adjustable Flange.....	"	57.60	71.40	95.40	162.00
"	"	Nickel Plated " "	"	62.40	76.20	102.60	171.00
"	G1077	Finished. Lead Pipe.....	"	49.20	.....	.....	.....
"	"	Nickel Plated " "	"	54.00	.....	.....	.....
"	"	Finished. Iron Pipe.....	"	48.00	.....	.....	.....
"	"	Nickel Plated, " "	"	52.80	.....	.....	.....
"	"	Finished. Flange Nut and Bent Coupling	"	66.00	.....	.....	.....
"	"	Nickel Plated " " "	"	70.80	.....	.....	.....
"	G1079	Finished or Nickel Plated.....	"	3.00	3.60	4.20	9.00
"	G1080.....			3.00	3.60	4.20	9.00
Add for China Lever Handles			"	9.00	9.00	9.00	9.00

FULLER BASIN COCKS.

NICKEL-PLATED.

No. 0.



Fig. G1081.

Price per dozen.....$39.00

No. 1.

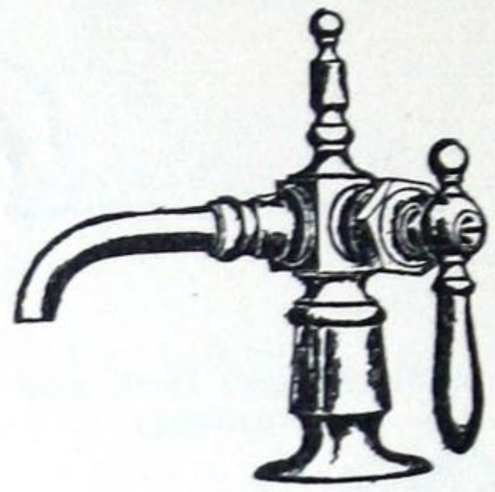


Fig. G1082.

Price per dozen.....$45.00

No. 2.

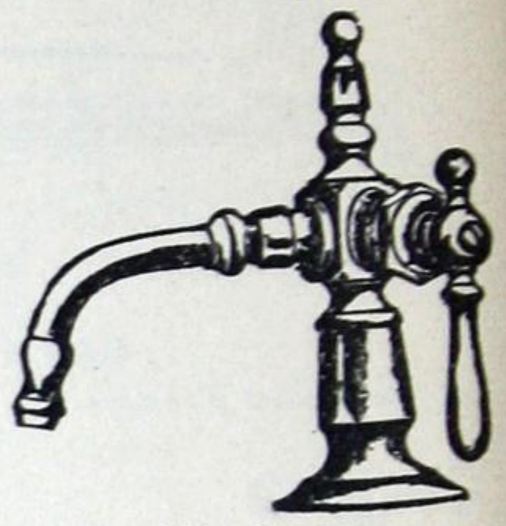


Fig. G1083.

Price per dozen.....$51.00

No. 0. With Union.



Fig. G1084.

Price per dozen..... $51.00

JAROCO.

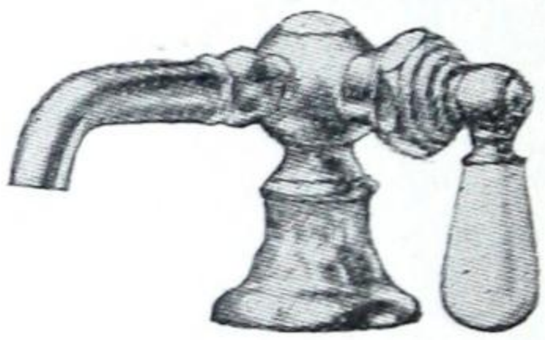


Fig. G1089.

Price per dozen..... $54.00

TORRANCE.



Fig. G1090.

Price per dozen..... $69.00

Double.
With Brass Lever Handles.

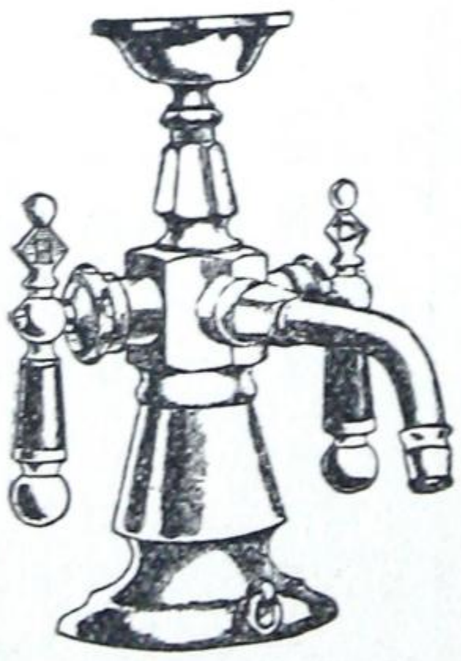


Fig. G1091.

Price, each.....	$14.00
For China Handles add per Set of 2.	1.50
For Oval Cup add...	1.00

Double Shampoo.

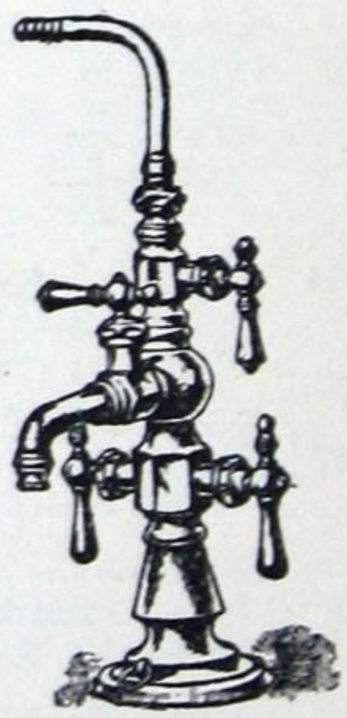


Fig. G1092.

Price, each.....	$25.00
For China Handles, add for each Handle.....	.75

FULLER PANTRY COCKS.

NICKEL-PLATED.

Single.

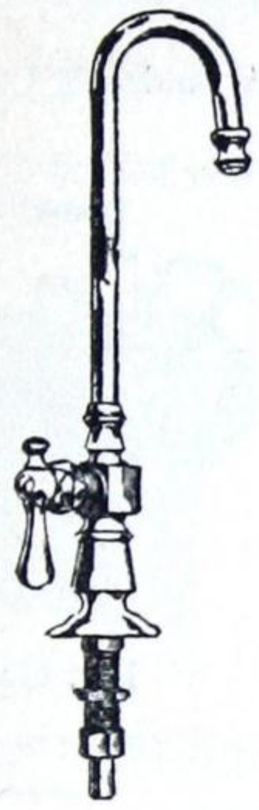


Fig. G1096.

Price per doz.....	$54.00
For China Handles, add per doz.....	9.00
Add for Hose End...	3.60

Double.



Fig. G1097.

Price, each.....	$12.75
For China Handles, add for each Cock	1.50
Add for Hose End.....	.30

FULLER DOUBLE BATH COCK.

NICKLE-PLATED.

No. 4½.

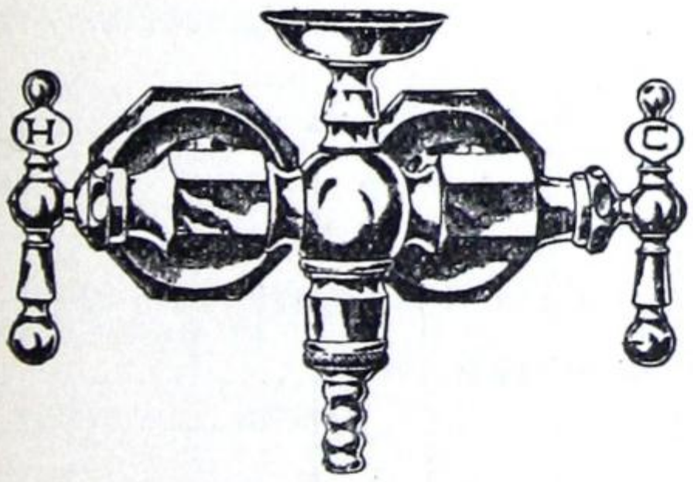


Fig. G1101.

Price, each.....	$8.90
For China Handles, add for each Cock.....	1.50

FULLER DOUBLE SINK COCK.

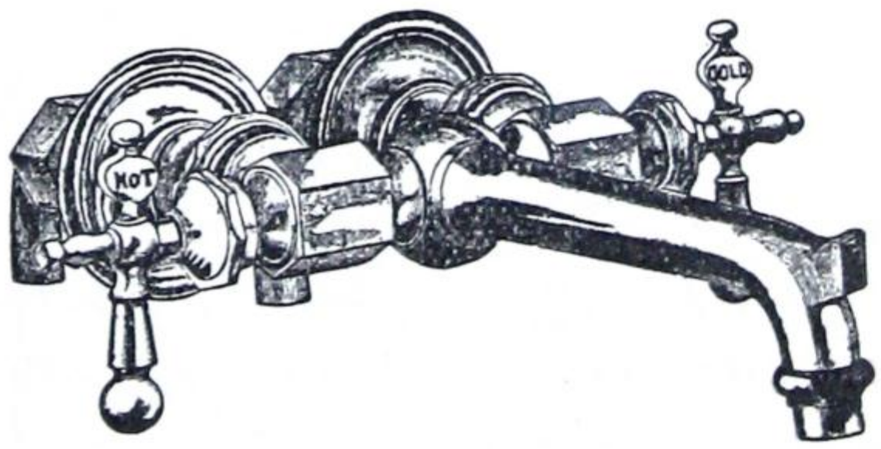


Fig. G1104.

Price each, Nickel Plated.	$10.50
Price each, Nickel Plated with Pail Brace from Nose of Cock to Wall..	12.50
If with China Handle, add for each Cock.....	1.50

BRASS SOLDERING NIPPLE, Male.

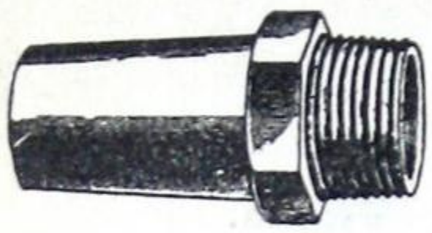


Fig. G1106.

BRASS SOLDERING NIPPLE, Female.

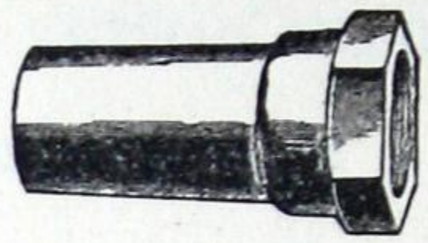


Fig. G1107.

BRASS SOLDERING UNION.

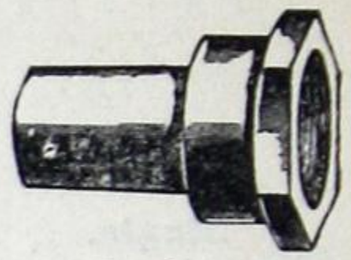


Fig. G1108.

A good Coupling for Lead Pipe can be made with Male Soldering Nipple and a Soldering Union, using a Leather or Rubber Washer.

Straight.

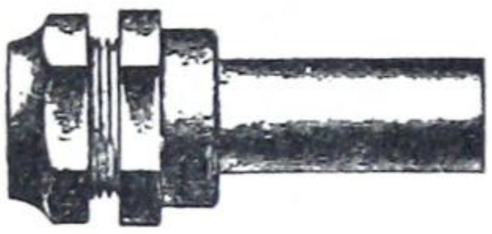


Fig. G1111.

WATER BACK COUPLINGS.

Brass.—Ground Face.

Bent.

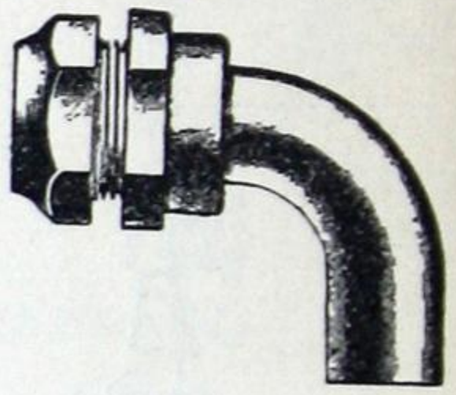


Fig. G1112.

BOILER COUPLINGS. BRASS.—Ground Face.

STRAIGHT, Lead Pipe.



Fig. G1113.

STRAIGHT, Iron Pipe.



Fig. G1114.

BENT, Lead Pipe.

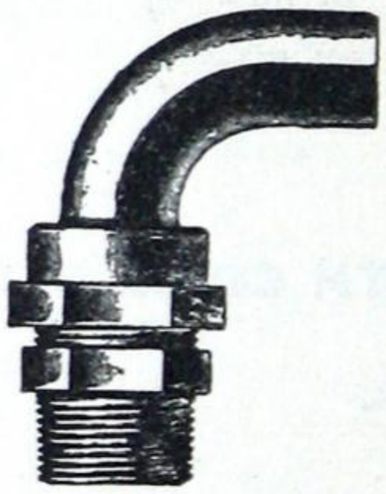


Fig. G1115.

BENT, Iron Pipe.

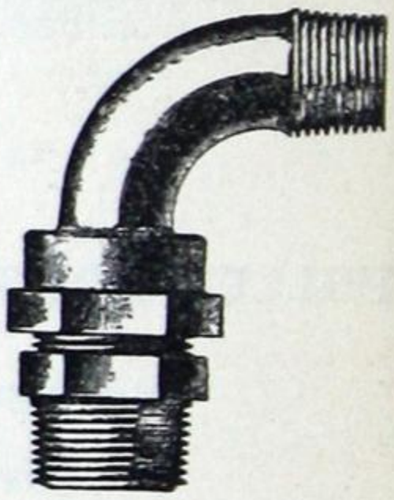


Fig. G1116.

Size, Inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
Soldering Nipples, Male \ per dz	$3.60	$3.60	$3.60	$ 4.20	$ 6.00	$ 8.40	$10.80	$15.00	$21.00	$36.00	$48.00	$84.00
" " Female/												
Soldering Unions..... "	4.20	4.20	4.80	6.00	7.80	10.20	13.20	15.00	21.00	.....	.....	.....
Water Back Couplings, Straight..... "	.....	.....	.....	10.80	13.80	18.00	.....	.....	.....	.....	.....	.....
Water Back Couplings, Bent..... "	.....	.....	.....	12.60	16.20	21.00	.....	.....	.....	.....	.....	.....
Boiler Couplings, Straight, L.P.	.....	.....	.....	10.80	13.80	18.00	.....	.....	.....	.....	.....	.....
Boiler Couplings, Straight, I.P.	.....	.....	.....	12.00	15.60	20.40	.....	.....	.....	.....	.....	.....
" " Bent, L.P....	.....	.....	.....	12.60	16.20	21.00	.....	.....	.....	.....	.....	.....
" " Straight, I.P.	.....	.....	.....	13.80	18.00	23.40	.....	.....	.....	.....	.....	.....

FERRULES.

STRAIGHT.
Brass.



Fig. G1121.

BENT.
Brass.



Fig. G1122.

REDUCING.
Brass.



Fig. G1123.

STRAIGHT WITH HUB.
Brass.



Fig. G1124.a

BENT WITH HUB.
Brass.



Fig. G1124.b

QUARTER BEND.
Brass.



Fig. G112.5.

WITH TRAP SCREWS
Brass.



Fig. G1126.

WITH STRAINER
Brass.



Fig. G1127.

WITH BRASS PLUG SCREW
Iron Body.



Fig. G1128.a

WITH TRAP SCREW
Iron.



Fig. G1128.b

Size, Diameter, Inches		2	3	4	5	6
Straight Short Pattern	Length, Inches..	3	.....	3¾	.....	.....
	Price Per Dozen	$ 9.00	.....	$18.60.	.....	.....
Straight Long Pattern	Length, Inches..	4	4	4⅛	4	4¼
	Price Per Dozen	13.20	22.20	27.60	61.20	68.40
Straight Extra Long Pattern	Length, Inches..	4½	.....	4½	.....	.....
	Price Per Dozen	17.50	.....	35.00	.....	.....
Reducing, 2″ x 1¼″ Long Pattern	Length, Inches..	4⅜	.....	.....	.....	.....
	Price Per Dozen	15.60	.....	.....	.....	.....
" 2″ x 1½″ " "	" " "	15.60	.....	.....	.....	.....
Bent, Long Pattern	Length Overall, Inches	5	6¾	7⅜	.....	.....
	Price Per Dozen.....	27.00	47.80	60.00	.....	.....
Bent, Extra Long Pattern	Length Overall, Inches	.....	.....	8¼	.....	.....
	Price Per Dozen.....	.....	.....	75.00	.....	.....
Straight, with Hub	Length, Inches	4	.....	4⅛	.....	.....
	Price Per Dozen	16.20	.....	33.60	.....	.....
Bent, With Hub	Length Overall, Inches	5	6¾	7⅜	.....	.....
	Price Per Dozen.....	33.00	58.00	72.00	.....	.....
Quarter Bend	Length Overall, Inches	7½	8¾	10⅛	.....	.....
	Price per Dozen.....	30.00	53.00	66.00	.....	.....
With Trap Screw, Brass	Price Per Doz	16.20	26.40	34.80	147.00	168.00
" Strainer, Brass	" " "	16.20	26.40	34.80	147.00	168.00
" Brass Plug Screw, I.P. Threads—Iron Body	" " "	15.00	29.40	45.00	.....	.....
" Trap Screw—Iron Body	" " "	11.40	18.00	21.60	.....	.....

TRAP SCREWS
Brass.



Fig. G1129.

NICKEL-PLATED TRAP COVERS.

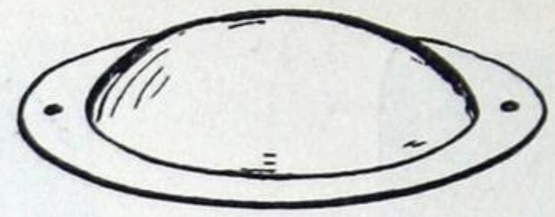


Fig. G1130.

Per dozen..... $5.00

Size, Inches.....	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Trap Screws, Finished....per doz.	$1.80	$2.40	$3.00	$3.60	$4.20	$7.20	$12.00	$15.00	$18.00	$21.00	$27.00	$42.00

PLUGS WITH COUPLINGS.

BASIN PLUG,
Common Overflow,
With Rubber Stopper.



Fig. G1131.

Nickel Plated, per doz. $10.80

BASIN PLUG,
Patent Overflow,
With Rubber Stopper.



Fig. G1132.

Nickel Plated, per doz.$12.96

WASH TUB PLUG.
With Rubber Stopper.

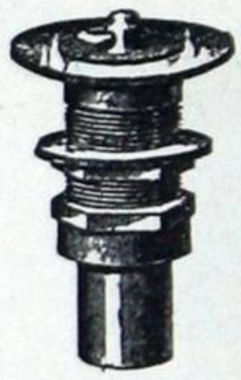


Fig. G1133.

Size, Inches.....	1	1¼	1½	2
Diam. Flange...	2⅞	3	3⅜	3⅝
Finished, per dz.	$23.76	25.92	32.40	50.40
N.P..... "	25.92	29.52	36.00	57.60

SLOP SINK STRAINER AND COUPLING.



Fig. G1136.

Size, Inches.....	1	1¼	1½	2
Diam., Flange.....	2¼	3½	3½	4
Finished....per doz.	$21.00	24.00	30.00	45.00
N.P..... "	22.80	27.00	36.00	51.00

OVERFLOW STRAINER,
For Earthenware Pantry Sinks.

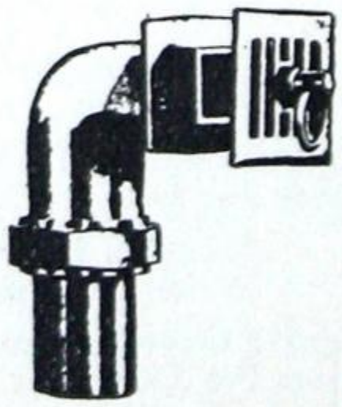


Fig. G1137.

Finished.....per doz.$27.00
N.P..... " 30.00

BRASS SINK GRATE AND PLUG.



Fig. G1141.

Finished....per doz.$13.50
N.P..... " 15.00
Cast Iron... " 6.00

BATH PLUG.
With Metal Stopper.

If with Rubber Stopper add 20%.



Fig. G1142.

WASH TUB PLUG.
With Metal Stopper.



Fig. G1143.

Size, Inches	¾	1	1¼	1½	2	2½	3	4
Bath Plugs, Finished.....per doz.	$2.40	$2.40	$3.00	$4.20	$8.40	$15.00	$18.00	$36.00
" " Nickel Plated.... "	3.00	3.00	3.60	4.80	9.60	17.40	21.00	42.00
Wash Tub Plug, Finished..... "	.....	.....	6.00	7.20	10.80	18.00	22.80	45.00
" " " Nickel Plated "	.....	.....	7.80	9.00	13.80	21.00	27.00	54.00

BASIN AND BATH.



Fig. G1144.
Basin, per doz..... $2.50
Bath, " 3.00

SUCTION STOPPERS.

RUBBER SINK.



Fig. G1145.

Per dozen..... $4.25

BATH WASTE AND WASHER.
Plain.



Fig. G1146.

RUBBER STOPPER.



Fig. G1149.

Size, Inches	1	1⅛	1¼	1⅜	1½	2	2½	3	4
Bath Waste and Washer, Plain Finished.per doz.	$ 8.00	.....	$ 9.00	.....	$12.00	$15.00	$24.00	$30.00	$60.00
Rubber Stoppers..... "	1.44	1.56	1.80	2.00	2.28	3.24	.....	.....	.....

BRASS STRAINERS.
Round Hole. Heavy Bars.



Fig. G1151.



Fig. G1152.

CAST IRON SINK. STRAINER.



Fig. G1154.

Cast Iron.....per doz. $2.10
Brass, N.P.... " 6.00

ADJUSTABLE SINK STRAINER.



Fig. G1155.

Brass, N.P....per doz. $12.00

SINK COLLARS, for Lead Pipe.



Fig. G1156.

Cast Iron.....per doz. $2.50

SINK COLLARS, for Iron Pipe.



Fig. G1157.

Cast Iron...per doz. $4.50

SINK BOLTS.



Fig. G1158.



Fig. G1159.

Iron, $2\frac{1}{4} \times \frac{1}{4}$.....per 100 $2.20
Brass, $2\frac{1}{4} \times \frac{1}{4}$..... " 5.00
Brass, N.P., $2\frac{1}{4} \times \frac{1}{4}$. " 6.50

Size, Inches.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Brass Strainers, Round Holes, Finished..per doz.	$1.20	$1.20	$1.20	$1.80	$1.80	$2.40	$3.00	$ 4.80	$ 9.00	$12.00
" " " " N. Plated "	1.80	1.80	1.80	2.40	3.00	4.20	6.00	8.40	13.80	18.00
" " Heavy Bars, Finished.. "	.....	.....	.....	.....	.....	.....	6.00	8.40	10.20	14.40
" " " " Nickel Plated"	.....	.....	.....	.....	.....	.....	9.00	12.00	15.00	20.40

CLOSET FLOOR FLANGES.

Brass.



Fig. G1160a

Light Pattern.....each $ .30
Heavy " ..... " .50

Rubber.



Fig. G1160b

Per dozen..... $3.00

CLOSET CONNECTIONS.

STRAIGHT RUBBER.



Fig. G1161.

TAPER RUBBER.



Fig. G1162.

ELBOW RUBBER.



Fig. G1163.

Size, Inches		1¼	1½	2
Straight Rubber	per doz.	$5.00	$6.50	$9.00
Taper "	"	3.00	3.60	4.80
Elbow "	"	9.00	.....	.....

BRASS SPUD.

Complete.



Fig. G1166.

Section.

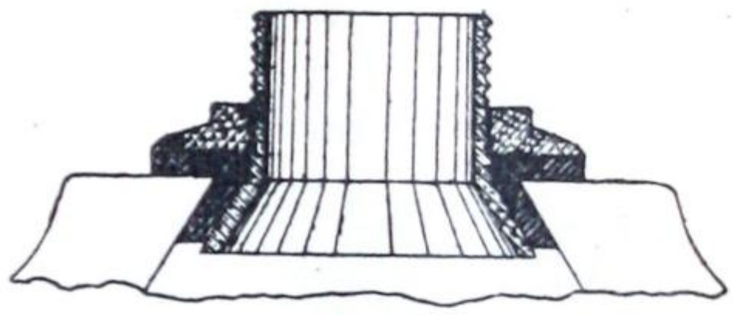


Fig. G1167.

Metal Washer.



Fig. G1168.

Rubber Spud Washer.



Fig. G1169.

Nickel Plated Coupling Ring.



Fig. G1170.

Size, Inches		1	1¼	1½	2	2 x 1½	2 x 1¼
Brass Spud Complete	Each	$ .75	$ .75	$ .80	$1.00	$1.10	$1.10
Metal Washers	Per Doz.	.25	.25	.30	.40	.40	.40
Rubber Spud Washers	"	1.50	1.50	2.00	2.40	2.40	2.40
Nickel Plated Coupling Ring	"	2.50	2.50	3.00	3.50	3.50	3.50

RUBBER GASKETS.

Sink.



Fig. G1176.

Price per dozen..... $1.10

Basin and Bath.



Fig. G1177.

Basin.....per doz. $0.36
Bath..... " 0.60

Bibb Washers.



Fig. G1181.

Fuller Ball.



Fig. G1182.

Rubber Bibb Top Washer.



Fig. G1183.

Size, Inches.....	⅜	½	9/16	⅝	11/16	¾	1
"Boss" Bibb Washers.....per 100	$1.30	$1.30	.....	$1.30	.....	$1.30	$2.40
Red Fibre Bibb Washers..... "	.70	.70	.....	.70	.....	1.00	1.20
Eclipse " " ..... "	1.60	1.60	.....	1.60	.....	1.60	.....
Fuller Balls, Grey.....per doz.	.20	.20	.20	.36	.50	.50	.80
" " Red..... "	.50	.50	.50	.60	.70	.80	1.00
Bibb Top Washers, Insertion..... "	.....	.40	.....	.60	.....	.....	.....

Rush Valve Washer.



Fig. G1184.

Size..... 1¼" 1½"
Per dozen.....$ .75 .75

"Success" Valve Washer.



Fig. G1185.a

1¼" x 2 3/16", per dozen... $1.80

Feather Edge Washer.



Fig. G1185.b

Size..... 1¼" 1⅜" 1½" 2"
Per doz...$1.75 1.75 2.00 2.50

Unique Waste Washer.



Fig. G1186.

Basin, 1"..... per doz. $1.20
Bath, 1½"..... " 1.90

Bath Overflow Washer.



Fig. G1187.

2¾" x 2".....per doz. $ .60

Slip Joint Washer.



Fig. G1188.

Size..... 1¼" 1½" 2"
Per dozen.. $ .30 $ .35 $ .40

Tank Washer.

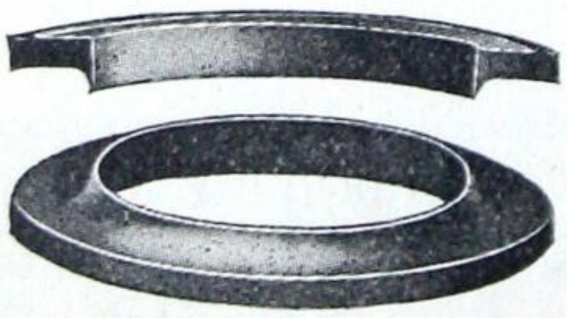


Fig. G1189.a

Per dozen..... $3.60

Bevel Waste and Overflow Washer.



Fig. G1189.b

Per dozen..... $1.20

SEAT BUMPER for Low Down Tanks.



Fig. G1190.

Per dozen..... $1.20

No. 1.



Fig. G1191.

No. 1, dozen..$ .15

SEAT BUMPERS. Nos. 2 & 3½.



Fig. G1192.

No. 2. ⅝" dia., doz. .20
No. 3½, ⅞" dia., doz. .50

Cowan.



Fig. G1193.

Per doz..... $1.15

Closet Seat Post Hinge Washers.



Fig. G1194.

Per 100..... $2.50



Fig. G1198.

WHITE RUBBER TUBING.

Size, Inches.....	⅛	¼
1/16" Wall...per foot	$ .10	$ .12
3/32" " ... "	.20	.24

RUBBER HOSE WASHERS.



Fig. G1199.a

RUBBER UNION WASHERS.



Fig. G1199.b

Size, Inches.....	¼	⅜	½	¾	1	1¼	1½	2
Rubber Hose Washers.....per 100	.....	.....	$ .50	$ .50	$ .60	.....	.....	.....
Rubber Union Washers..... "	$ .60	$ .60	.65	75	.80	$1.10	$1.20	$1.35

CAM BALL COCK WASHER.



Fig. G1200.a

Per dozen..... $1.00

McAVITY BALL COCK PLUG.

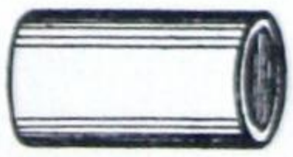


Fig. G1200.b

Per dozen..... $1.50

SHANK BALL COCK PLUG.

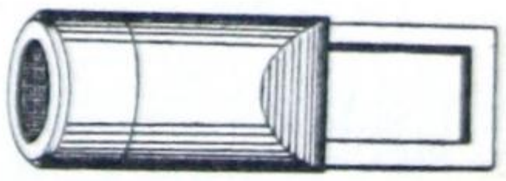


Fig. G1200.c

Per dozen..... $3.00

SHOWER HEADS.

Nickel Plated.

Plain.



Fig. G1201.

Tubular.



Fig. G1202.

Size, Dia., Ins	6	8	10
Plain, each	$2.30	2.40	3.00
Tubular	$4.30	5.10	7.80

Cast Brass.



Fig. G1203.
5½" Dia., each.. $4.50

Cast Brass with Ball Joint.



Fig. G1204.
5½" Dia., each.. $7.50

KINGDON

N.P. Brass.



Fig. G1206.

Diameter, 18 ins.

Each..... $15.00

N.P. CURTAIN HOOKS.



Fig. G1211.
Per doz..... $ .95

SHOWER OR BATH SPRAYS.

No. 1.



Fig. G1212.

No. 2.



Fig. G1213.

Size, Dia., Ins	2	2½	4
No. 1, each	....	$ .50	$1.00
No. 2, each	$ .20	.....	.....

SHOWER THERMOMETER.

Nickel Plated.



Fig. G1214.

Each..... $4.50

SHOWER CURTAINS



Fig. G1215.
Size, 7 ft. x 6 ft.
Rubber, each.. $11.00
Duck, each.... 7.00

Bibb Repair.



Fig. G1221.
Each..... $1.80

Boiler Repair Bolt.

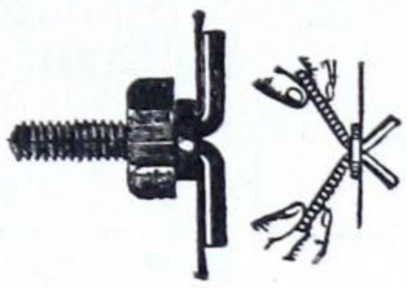


Fig. G1222.
Each..... .20

Brass Air Chamber.



Fig. G1223.
Each..... $1.50

BASIN CLAMPS.

Star.



Fig. G1224.
Price per doz..... $0.75

Clencher.



Fig. G1225.
Price per doz..... $1.25

McClellan Anti-Syphon Trap Vent.

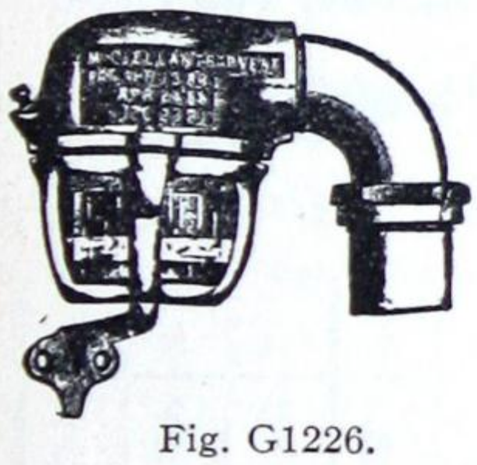


Fig. G1226.
Each..... $5.00

Whey Valve.



Fig. G1229.

2 inch.....each $3.50
3 " ..... " 6.00

Perfection Gate.



Fig. G1230.

Size, Inches	½	¾	1	1¼	1½	2	3
Price per dozen	$9.50	$12.00	$14.00	$16.50	$20.00	$28.00	$36.00

NICKEL-PLATED ROUND HEAD.

Brass Screws.



Fig. G1231.

Number	2	6	7	8	9	10	12	14
Length ½" per doz	.....	$ .18	.....	.....	.....	.....	.....	.....
" ¾" "	$ .18	.20	$ .22	.....	$ .26	.....	.....	.....
" 1" "	.....	.....	.24	$ .28	.30	.....	.....	.....
" 1¼" "	.....	.....	.....	.32	.34	$ .36	.....	.....
" 1½" "	.....	.....	.....	.34	.....	.40	.....	.....
" 2" "	.....	.48	.....	.....	.....	.50	$ .60	.....
" 2½" "	.....	.....	.....	.....	.80	.80	.82	$ .90

Closet Screw, with Nickel-Plated Loose Head.



Fig. G1232.
Per dozen..... $ .60

Closet Bolt, with Nickel-Plated Loose Head.

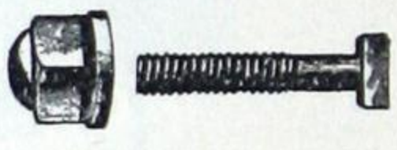


Fig. G1233.
Per dozen..... $ .95

EXPANSION SHIELDS.

Composition, One Piece.



Fig. G1236.

Size, Inches	⅛	3/16		¼	
Size Scr., Nos.	5,6,7	8, 9, 10, 11		12, 13, 14	
Outside Dia. Ins.	¼	5/16		3/8	
Length..... "	½, ⅝, ¾	½, ¾, 1	1⅝	½, ¾, 1	1½
Price per 100...	$4.40	$5.00	$6.25	$5.60	$6.75

Above prices are without Screws.

Malleable, Two Piece.



Fig. G1237.

Size, Inches.....	¼	5/16	3/8	7/16	½	⅝	¾
Outside Dia., Ins.	7/16	½	⅝	11/16	¾	⅞	1
Length Long "	1½	2	2¾	3	3½	3½	3½
Length Short "	.....	1½	2	2	2	2	2
Price per 100.....	$9.40	10.50	13.35	17.75	22.00	27.80	39.95

Above prices are without Lag Screws.

STAR DRILLS.



12" long.
Fig. G1239.

Size, Inches	¼	5/16	3/8	7/16	½	⅝	¾	⅞	1	1⅛
Price per dozen	$8.50	$8.50	$8.50	$9.00	$10.00	$12.00	$14.00	$16.00	$18.00	$24.00

WATER FILTERS.

NICKEL-PLATED.

Hygienic.



Fig. G1241.

Each..... $ .70

Style Z.



Fig. G1242.

Each..... $ .35

NICKEL-PLATED WASHERS.

Round.



Fig. G1246.

Price per doz..... $ .14

Oval.



Fig. G1247.

Price per doz..... $ .25

NICKEL-PLATED SPEAKING TUBE WHISTLES.

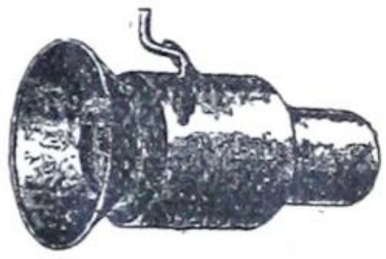


Fig. G1249.

Price per doz..... $5.00



Fig. G1251.

NICKEL-PLATED SPUN FLANGES.

Size, Inches.....	⅜	½	¾	1	1¼	1½	2
Price per doz., I.P. size.....	$ .70	$ .70	$ .70	$ .70	$ .75	$ .75	$1.85
" " " Tube size.....	.....	.....	.70	.70	.75	.75	1.85



Fig. G1253.

WIRE CONDUCTOR STRAINERS.

Size, Inches.....	2	3	4	5	6
Galvanized.....Price per doz.	$4.00	$4.50	$4.60	$5.00	$5.25
Copper..... " " "	15.00	16.00	21.00	.....	.....

NICKEL PLATED CHAIN STAYS.

A



Fig. G1256.

Per dozen.... $2.40

B



Fig. G1257.

Per dozen.... $4.20

NICKEL PLATED BLANKS.

Basin.



Fig. G1258.

Per doz..... $4.20

Bath.



Fig. G1259.

Per doz..... $10.80

SAFETY CHAINS.

Reels 500 feet.



Fig. G1261.

		00	1
No.....			
Brass.....	per 100 feet	$3.60	$5.20
Nickel Plated.....	"	3.70	5.30

BATH AND BASIN CHAINS.

With Split Links.



Fig. G1262.

		00	1
No.....			
Nickel Plated Bath.....	per doz.	$1.27	$1.67
" " Basin...	"	1.00	.....

SPLIT LINKS.



Fig. G1263.

		Large.	Small.
Brass.....	per gross	$1.75	$1.50
Nickel Plated.....	"	1.85	1.60

8 HOOKS.

No. 4.



Fig. G1264.

Brass.....	per gross	$1.30
Nickel Plated.....	"	1.38

NO. 1 SCREW EYE.



Fig. G1266.
Per doz..... $ .96

PULLS.

NO. 2 IRON TOP.



Fig. G1267.
Per doz..... $1.50

NO. 3 JET ENAMELLED.



Fig. G1268.
Per doz..... $2.40

NO. 4 CHINA.



Fig. G1269.
Per doz..... $7.20

NO. 5 OPAL GLASS.



Fig. G1270.
Per doz..... $10.80

GUIDE AND ROD.



Fig. G1275.
N.P., each..... $1.70

Note.—Nos. 3, 4 and 5 have Nickel Plated Mountings and Rubber Rings.

PIPE STRAPS.

SINGLE.

Plain.



Fig. G1276.

With Bumper.



Fig. G1277.

DOUBLE.

Plain.



Fig. G1278.

With Bumper.



Fig. G1279.

Size.....	$\frac{3}{8}$" I.P.	$\frac{1}{2}$" I.P.	$1\frac{1}{4}$" Tube	$1\frac{1}{2}$" Tube	$\frac{3}{8}$" I.P. x $1\frac{1}{4}$" Tube	$\frac{3}{8}$" I.P. x $1\frac{1}{2}$" Tube
Single, Plain, N.P.....per doz.	$ .85	$ .95	$1.10	$1.50	.....	.....
" with Bumper, N.P..... "	.....	.....	1.50	1.70	.....	.....
Double, Plain, N.P..... "	.....	.....	.....	.....	$1.60	$1.85
" with Bumper, N.P..... "	.....	.....	.....	.....	2.00	2.40

ADJUSTABLE PIPE STAYS.

FOR SUPPLY.

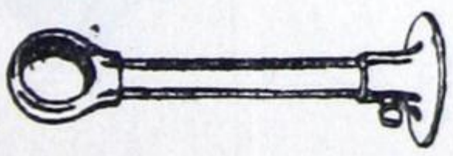


Fig. G1281.
$\frac{3}{8}$" I.P. Size, N.P.....per doz. $4.50

FOR FLUSH.



Fig. G1282.

Size of Tube.....	$1\frac{1}{4}$"	$1\frac{1}{2}$"
With Bumper, N.P.....per doz.	$4.90	$5.50

BRACKETS.

SINK—Cast Iron.

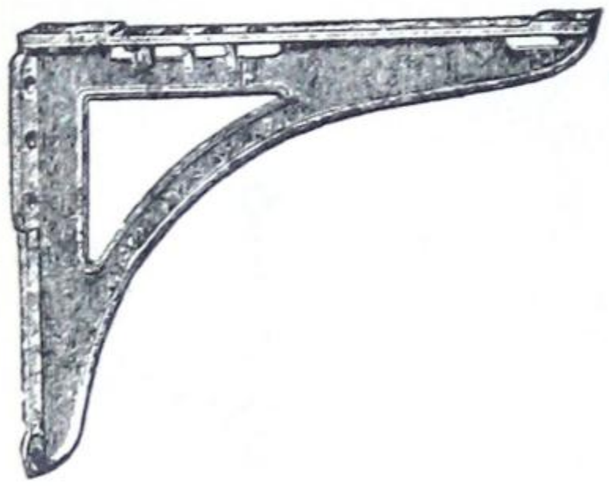


Fig. G1286.

No.	1	2
Size	13x11½	17x13
Per pair	$ .60	$ .70

LEG AND BRACKET
For Porcelain Sink.

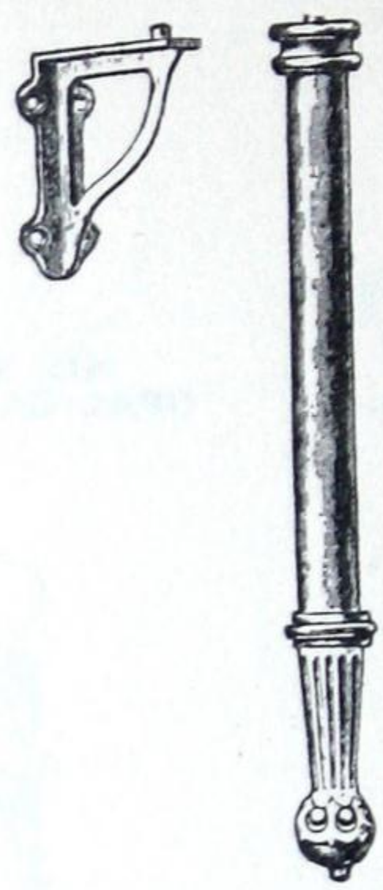


Fig. G1287.
Per set, 2 Legs & 2 Brackets.
$3.20

TERRY SINK BRACKET.
Adjustable.

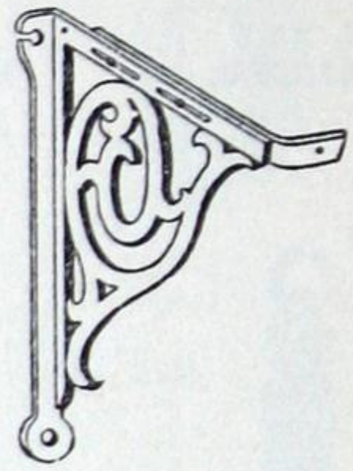


Fig. G1288.
Price per pair..... $1.70



Fig. G1289.

JAPANNED BRACKETS.

Size, Inches	4 x 5	6 x 8	7 x 9	8 x 10
Price per dozen pair	$1.60	$3.00	$3.60	$4.20

NICKEL-PLATED SUPPORTS.

APRON.

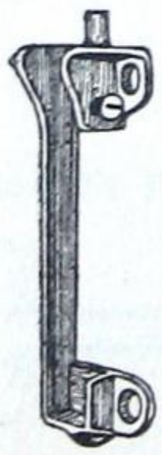


Fig. G1291.
Per pair..... $1.50

SLAB.



Fig. G1292.
Per pair..... $1.00

NICKEL-PLATED BRACKETS.

N.P. STEEL.

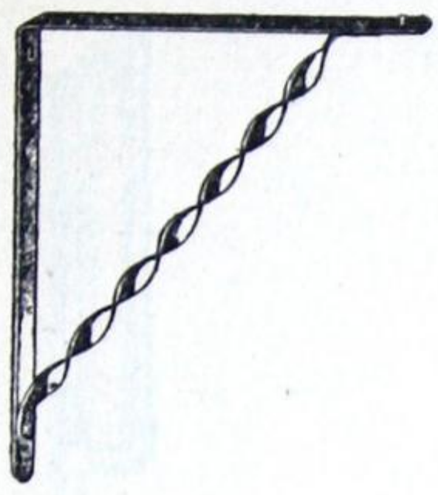


Fig. G1296.

Size, inches...	4 x 5	6 x 8	7 x 9	16 x 18
Per pair.....	$ .32	$ .36	$ .40	$1.40

N.P. BRASS PLAIN TUBE AND FINALS. With Steel Ball to Wall.

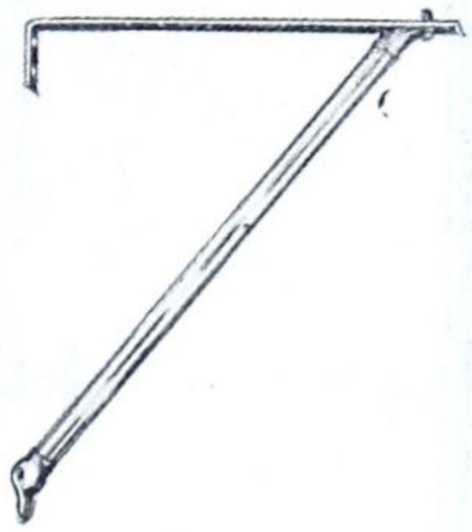


Fig. G1297.

Size, Inches.....	16 x 18
Per pair.....	$3.50

N.P. BRASS SCROLL.

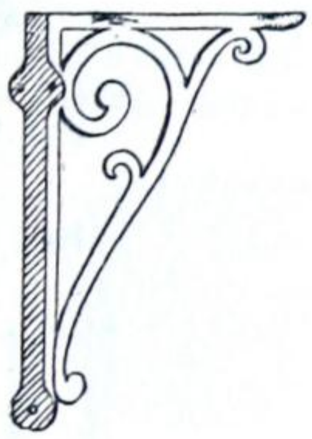


Fig. G1301.

Size, inches.....	6½x8½
Per pair.....	$1.80

N.P. BRASS FAN.



Fig. G1302.

Per pair..... $1.40

LAVATORY LEGS.

N.P. BRASS. Plain.



Fig. G1306.

Per pair.... $5.50

N.P. BRASS Offset.



Fig. G1307.

Per pair..... $8.85

N.P. BRASS. Plain Tube.



Fig. G1308.

Per pair..... $4.90

NICKEL-PLATED LAVATORY SUPPLY PIPES.

No. 1.



Fig. G1311.
Price per pair.. $4.15

No. 2.



Fig. G1312.
$8.15

No. 3.



Fig. G1313.
$8.00

No. 4.



Fig. G1314.
$12.00

No. 5.



Fig. G1315.
Price, per pair.. $4.15

No. 6.



Fig. G1316.
$8.15

No. 7.

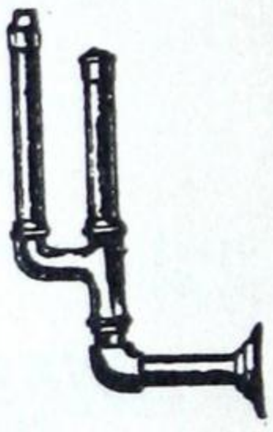


Fig. G1317.
$8.00

No. 8.

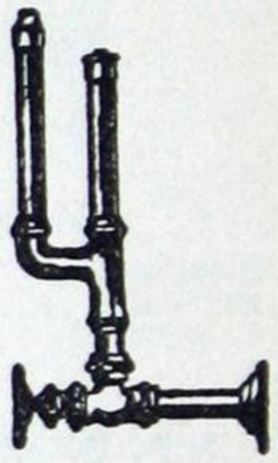


Fig. G1318.
$12.00

NICKEL-PLATED SUPPLY VALVES.

STRAIGHT.

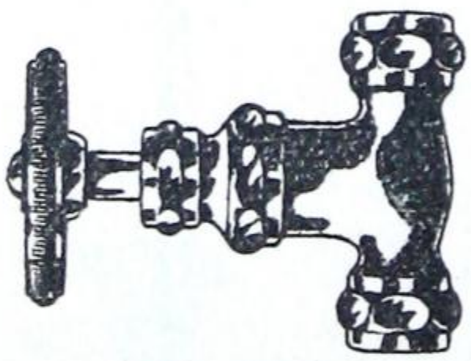


Fig. G1319.

STRAIGHT & ANGLE SAME LIST.

ANGLE.

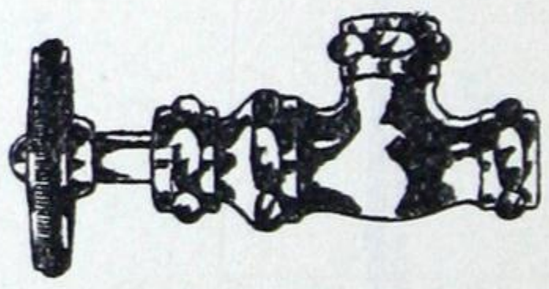


Fig. G1320

Size, Inches		⅜	½	⅝	¾
Wheel Handle	Finished	$25.20	$30.00	$36.60	$46.20
" "	N.P.	28.80	33.60	40.20	50.40
Loose Key with Stuffing Box	Finished	25.20	30.00	36.60	46.20
" " " " "	N.P.	28.80	33.60	40.20	50.40

NICKEL-PLATED BATH SUPPLY PIPES.

No. 1.



Fig. G1321.
Price per pair..$5.50

No. 2.



Fig. G1322.
$10.00

No. 3.



Fig. G1323.
$10.00

No. 4.



Fig. G1324.
$14.50

NICKEL-PLATED COUPLING NUT.
For Supply.



Fig. G1325.a
Price per dozen..... $3.60

NICKEL-PLATED COUPLING NUT.
For Flush.



Fig. G1325.b

Size.....	$1\frac{1}{4}''$	$1\frac{1}{2}''$
Price per dozen.....	$6.00	$7.20

NICKEL-PLATED SUPPLY PIPES.—For High-up Water-closet Tanks.
STRAIGHT



$\frac{3}{8}''$ I.P. Size, each..... $4.00 Fig. G1326. $\frac{3}{8}''$ I.P. Size, with Valve, each.. $6.00

OFFSET.



$\frac{3}{8}''$ I.P. Size, each..... $4.50 Fig. G1327. $\frac{3}{8}''$ I.P. Size, with Valve, each.. $6.50

NICKEL-PLATED FLUSH PIPES—For High-up Water-closet Tanks.
STRAIGHT.



$1\frac{1}{4}''$, each..... $3.25 Fig. G1328. $1\frac{1}{2}''$, each..... $3.75

OFFSET.



$1\frac{1}{4}''$, each..... $4.00 Fig. G1329. $1\frac{1}{2}''$, each..... $4.50

FLUSH AND SUPPLY.—For Low-Down Tanks.

2′ FLUSH ELBOWS.

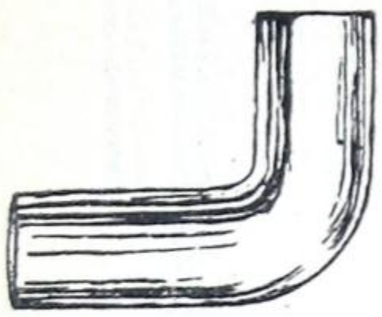


Fig. G1331.

Price each . . $1.10

2′ FLUSH OFFSETS.



Fig. G1332.

To Offset	1″	1½″	2″	2½″	3″	3½″	4″
6″ long, each	$1.10	$1.15	$1.30	$1.45	$1.60	$1.95	$2.00
9″ " "	....	....	....	....	....	1.90	2.50

SUPPLY.

No. 1.



Fig. G1333.
each $1.25

No. 2.

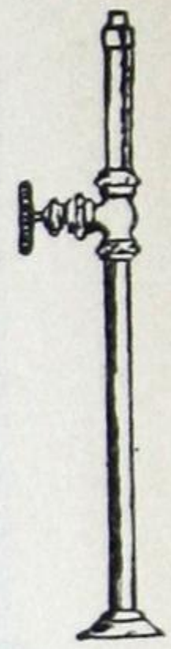


Fig. G1334.
each $3.25

NICKEL-PLATED BRASS LAVATORY TRAPS.

ELLIPTIC TRAP With Vent.



Fig. G1335.a

SANITAS TRAP



Fig. G1335.b

DEEP SEAL TRAP.

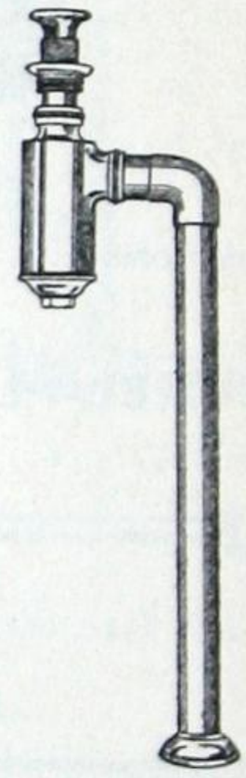


Fig. G1335.c

SIZE—INCHES.		1¼″	1½″	2″
Elliptic Trap, with Vent	Each.	....	$9.50	....
Sanitas Trap	"	$5.50	8.75	....
Deep Seal Trap	"	6.50	8.50	$13.00

Above prices are with Nickel-Plated P.O. Basin Plug or Sink Cup. When ordering, mention kind required.

All Traps listed above may be fitted for ranges or Lavatories, Sinks, Laundry Trays, etc.

As there are a number of different styles of Sink Connections, it is important that Collar of Sink or Tail Piece of Plug be sent with the order for Sink Traps.

NICKEL-PLATED BRASS LAVATORY TRAPS AND WASTES.

STRAIGHT LAVATORY WASTE.



Fig. G1336.

ADJUSTABLE TRAPS.

S



Fig. G1337.

S, With Vent.

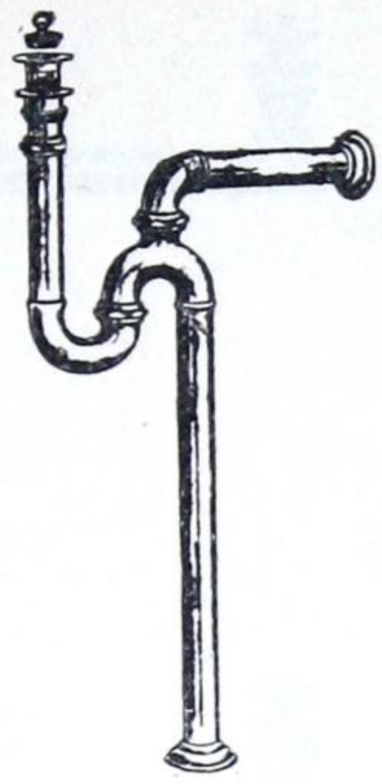


Fig. G1338.

ADJUSTABLE TRAPS.

P

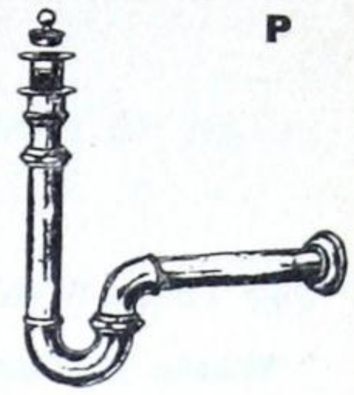


Fig. G1339.

P, with Vent.

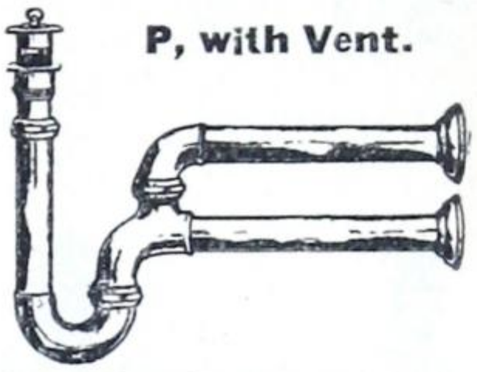


Fig. G1340.

WHIRLPOOL TRAPS.

S

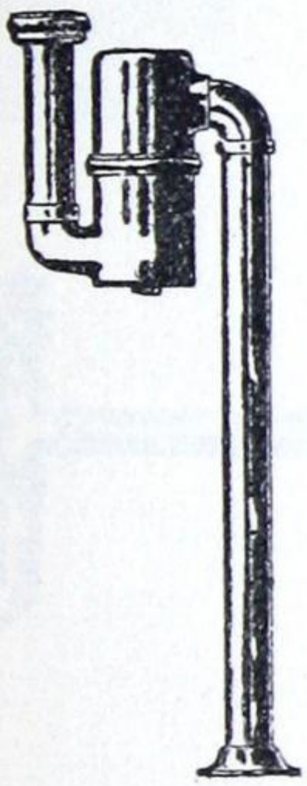


Fig. G1346.

S, with Vent.

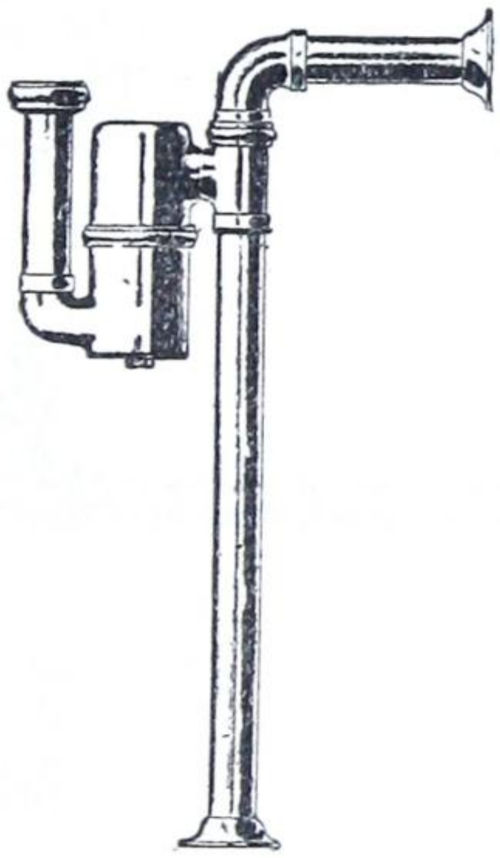


Fig. G1347.

WHIRLPOOL TRAPS.

P

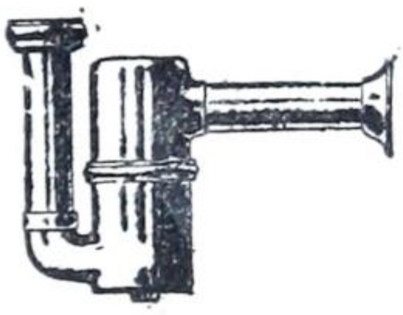


Fig. G1348.

P, with Vent.

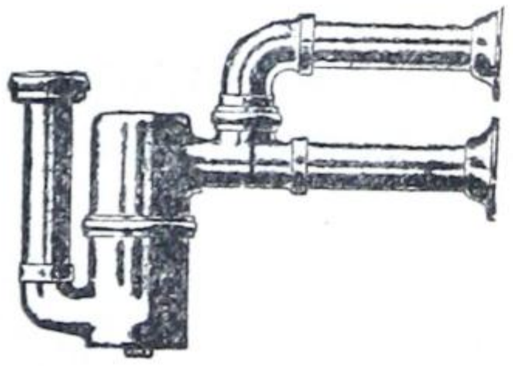


Fig. G1349.

Size, Inches		1¼	1½	2
Straight Lavatory Waste	each.	$2.50	$3.50	$ 4.50
Adjustable S. Trap	"	5.25	6.55	11.00
" S. Trap, with Vent	"	6.85	9.00	13.00
" P. Trap	"	4.15	5.20	10.50
" P Trap, with Vent	"	6.20	8.35	12.00
Whirlpool S. Trap	"	6.50	8.50	13.00
" S Trap, with Vent	"	8.00	10.25	15.75
" P Trap	"	5.70	7.50	11.50
" P Trap, with Vent	"	7.65	9.00	15.25

Above prices are with Nickel-Plated P.O. Basin Plug or Sink Cup. When ordering, mention kind required.

All Traps listed above may be fitted for ranges of Lavatories, Sinks, Laundry Trays, etc.

As there are a number of different styles of Sink Connections, it is important that collar of sink or tail piece of plug be sent with order for Sink Traps.

P.O. PLUG



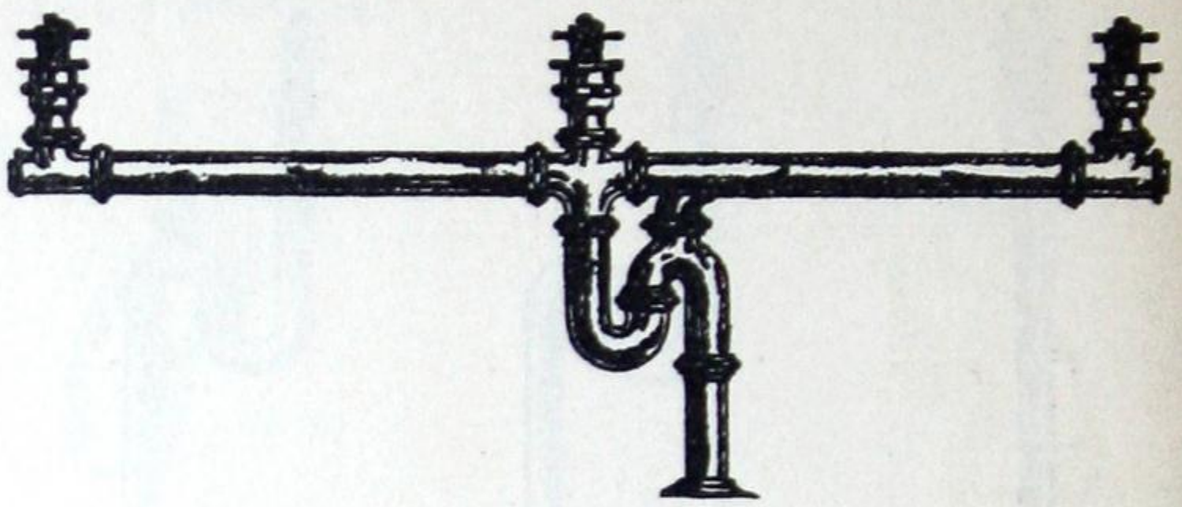
Fig. G1351.

SINK CUP.



Fig. G1352.

NICKEL-PLATED BRASS CONTINUOUS WASTE FOR LAVATORIES AND LAUNDRY TRAYS.



For Three Fixtures.
Waste in Centre.

Fig. G1356.

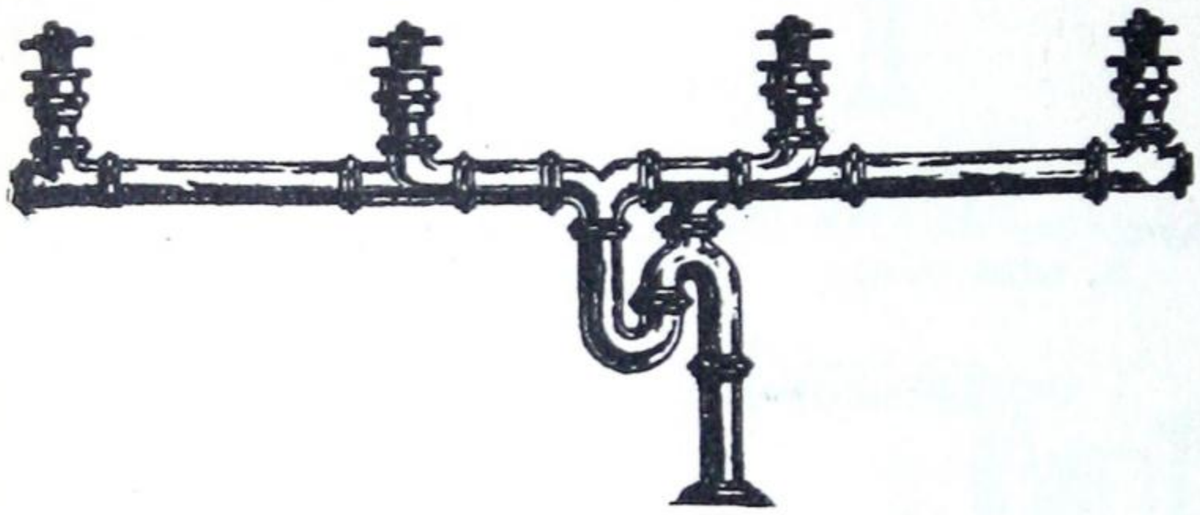
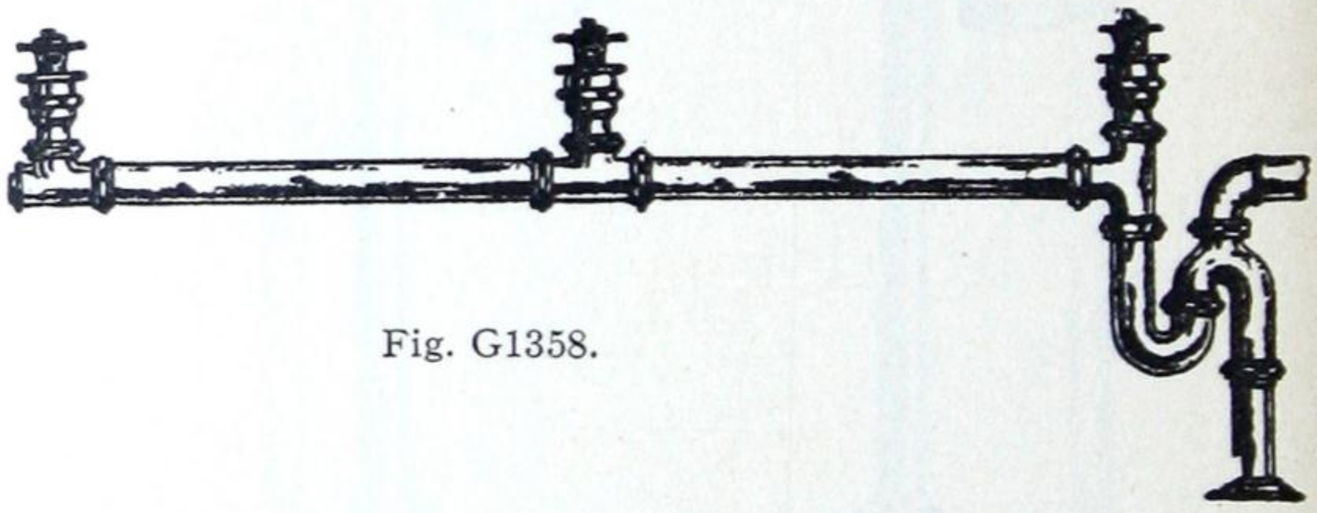


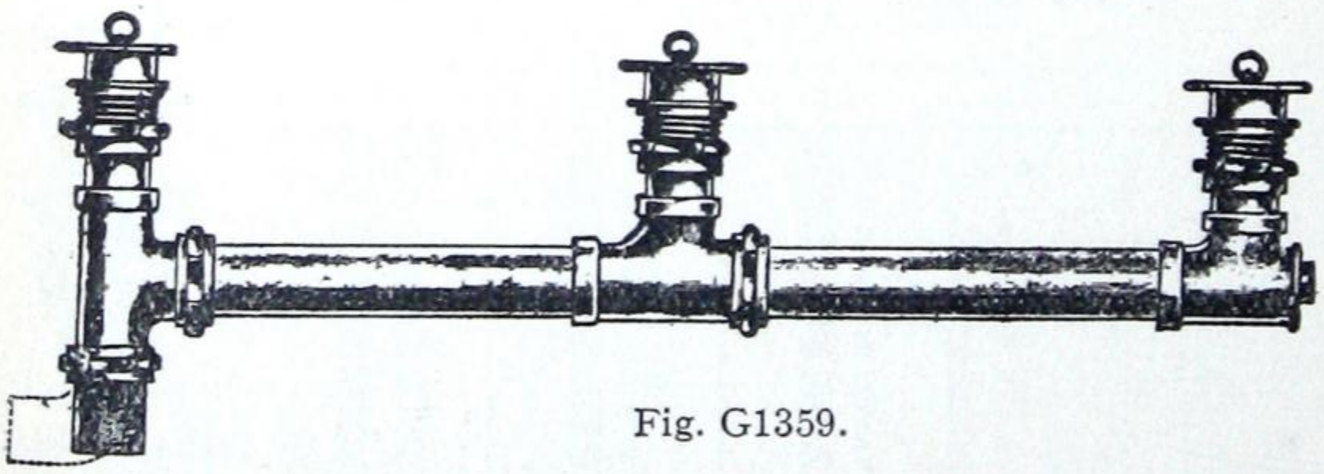
Fig. G1357.

For Four Fixtures.
Waste in Centre.



For Three Fixtures.
Waste at Right Hand End.

Fig. G1358.



For Three Fixtures.
Waste at Left Hand End.

Fig. G1359.

Above shows a few of the different kinds and styles of Continuous Wastes for Lavatories and Wash Trays. When ordering, it is well to send sketch, giving centre of outlets and position of Trap. Can be made up to suit any requirement and fitted with any kind of Trap shown on pages 150 and 151.

Prices on Application.

BRASS TUBE FITTINGS.

ELBOW No. 1.

Slip Joint.



Fig. G1361.

Plain.



Fig. G1362.

ELBOW 45° No. 2.

Slip Joint.



Fig. G1363.

Plain.



Fig. G1364.

DOUBLE SWEEP ELBOW No. 2.

Slip Joint.



Fig. G1365.

Plain.



Fig. G1366.

SINGLE SWEEP TEE No. 4.

Slip Joint.



Fig. G1367.

Plain.



Fig. G1368.

CROSS No. 5.

Slip Joint.



Fig. G1369.

Plain.



Fig. G1370.

CLEAN OUT PLUG.



Fig. G1371.

BUSHING FOR TUBE AND IRON PIPE.



Fig. G1372.

Prices on Application.

NICKEL-PLATED BRASS LAVATORY WASTES

COMBINATION WASTE AND SUPPLY-COMPRESSION.

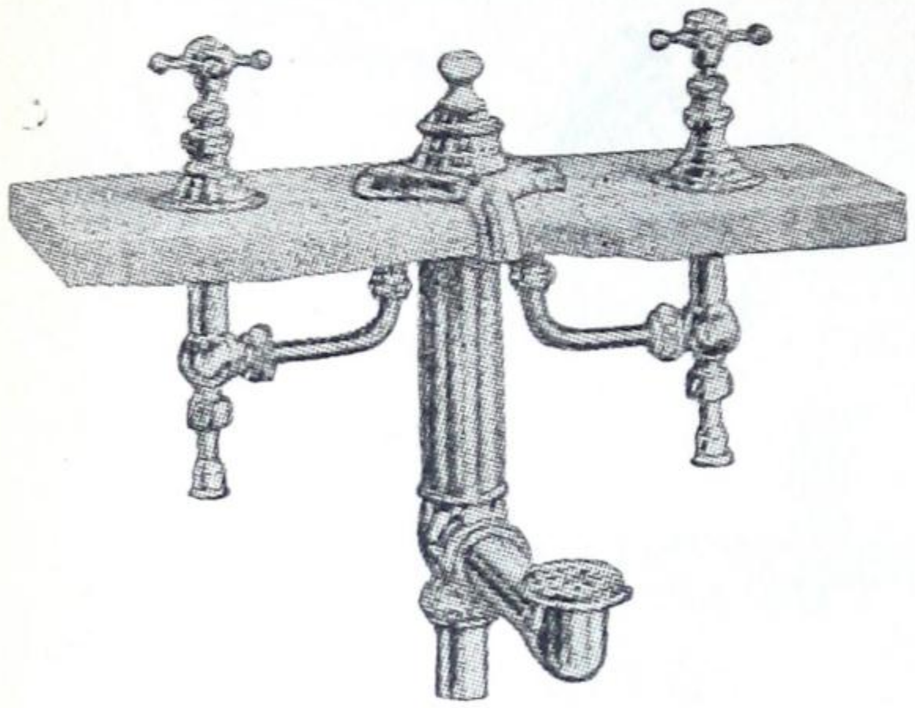


Fig. G1376.

Each.....$16.25

COMBINATION WASTE AND SUPPLY-FULLER.

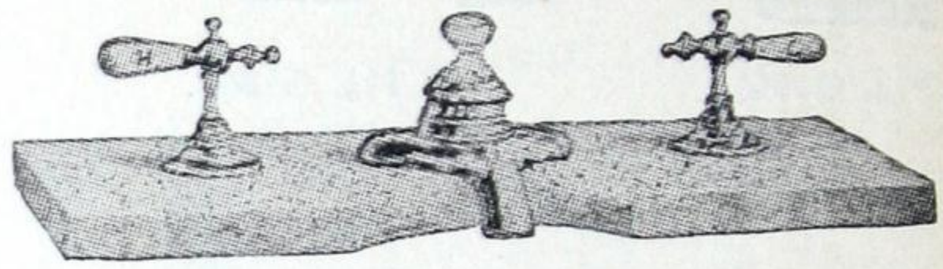


Fig G1377.

Each.....$16.25

UNIQUE LAVATORY WASTE AND OVERFLOW.

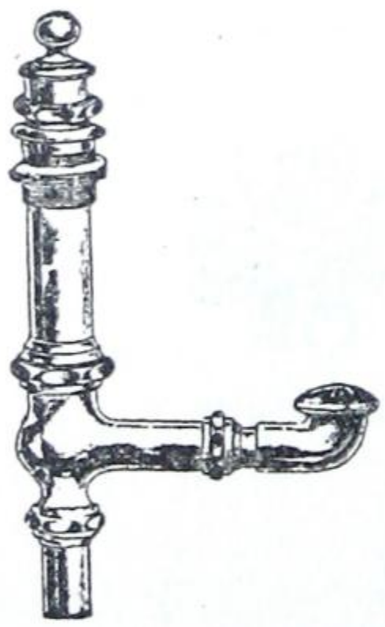


Fig. G1379.

Each.....$7.00

LAVATORY POP WASTE.



Fig. G1380.

Each.....$7.00

NICKEL-PLATED BRASS BATH WASTES.

COMBINATION WASTE AND OVERFLOW.

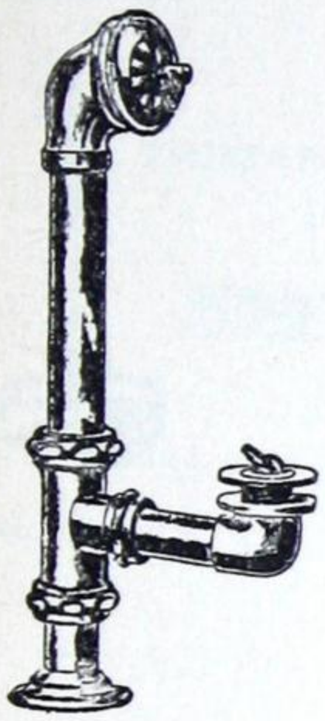


Fig. G1381.

Each..... $3.40

ROYAL WASTE.

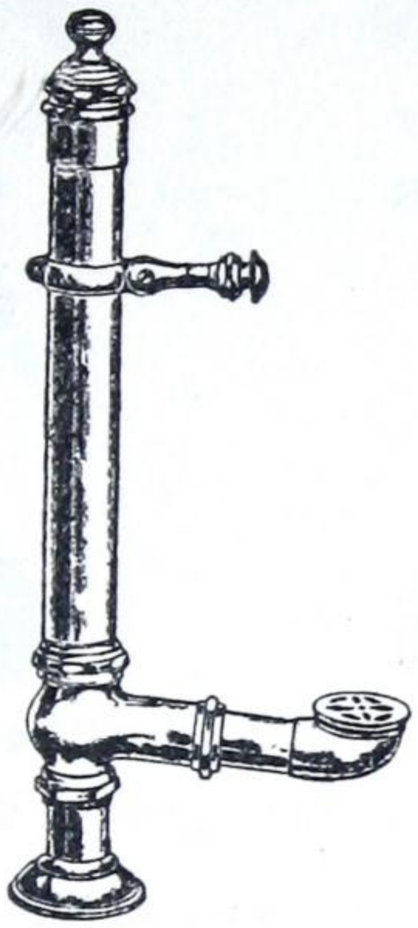


Fig. G1382.

Each.....$12.00

IMPERIAL WASTE AND BELL SUPPLY.

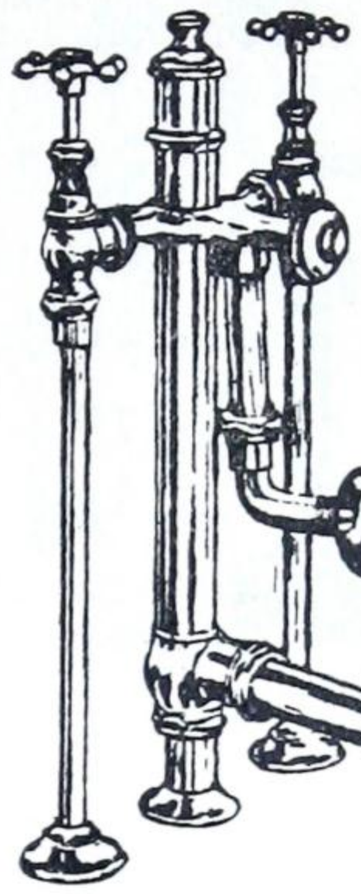


Fig. G1383.

Each.....$33.75

N.P. WHIRLPOOL BATH TRAP.

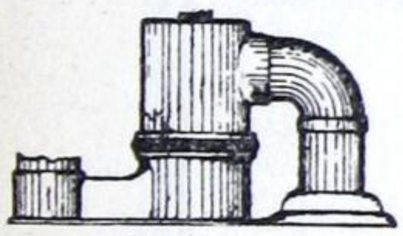


Fig. G1386.

1½", S.....	$10.00
" P.....	9.00
" S, Vented....	11.75
" P, "	11.40

BRASS BATH TRAP WITH ROUGH BODY For 1½" Iron Pipe, and NICKEL-PLATED FLANGE COVER.



Fig. G1388.

Each..... $10.00

FLUSHING RIM FLOOR DRAIN.



Fig. G1387.

With N.P. Hinged Strainer and Brass Trap, with Jet.

11 in. diameter floor plate, ¾ in. I.P. supply.

Trap Tapped for 3 in. iron pipe

Each..... $45.00

URINAL STALL FITTINGS.

Top Standards—6″ High.

END.



Fig. G1401.

CORNER.



Fig. G1402.

TEE.



Fig. G1403.

RUNNING.



Fig. G1404.

Bottom Standards—12″ High.

END.



Fig. G1406.

CORNER.



Fig. G1407.

TEE.

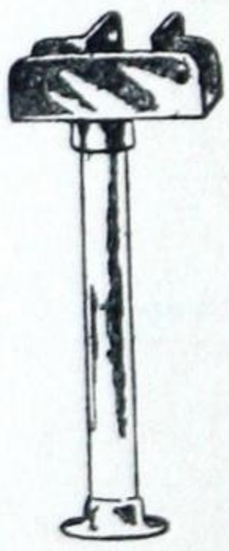


Fig. G1408.

RUNNING.

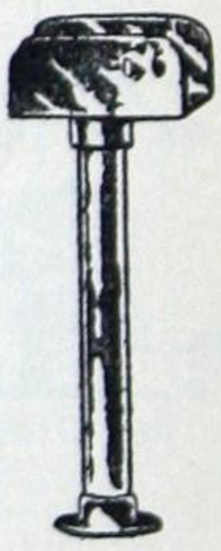


Fig. G1409.

	End.	Corner.	Tee.	Running.
	$ c.	$ c.	$ c.	$ c.
Top Standards, Finished, each	3.20	3.50	3.50	3.20
" " Nickel-plated, each	3.50	4.00	4.00	3.50
Bottom Standards, Finished, each	2.40	2.65	2.90	2.65
" " Nickel-plated, each	2.70	2.90	3.15	2.90
If required Higher or Lower, add or deduct for every inch	.08	.08	.08	.08

CLAMPS.

LEFT HAND.



Fig. G1411.

RIGHT HAND.



Fig. G1412.

CENTRE.



Fig. G1413.

ANGLE.



Fig. G1414.

	Left.	Right.	Centre.	Angle.
Finished, each	$ .55	$ .55	$ .70	$ .35
Nickel-plated, each	.60	.60	.75	.40

THREADED BRASS ROD.

¼" Diameter



Fig. G1416.
One foot lengths, per length....$ .25

NUTS.

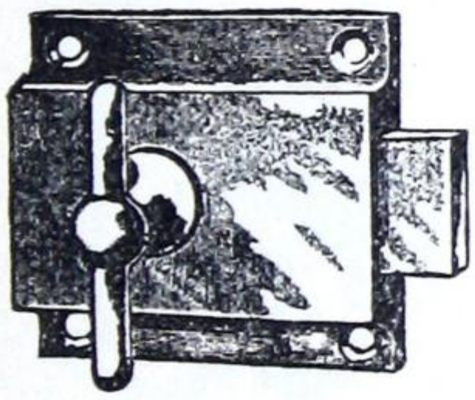


Fig. G1417.
Nickel-plated, per doz..... $ .55

CLOSET STALL FITTINGS.

INDICATOR LATCH.

Inside.



Outside.



Fig. G1421.
Nickel-plated, each..... $3.75

STRIKE AND KEEPER.



Fig. G1422.
Nickel-plated, each....$1.50

SPRING HINGE.



Fig. G1423.
Nickel-plated, per pair....$6.75

DOOR PULL



Fig. G1424.
Nickel-plated, each.$ .45

URINAL INLET.
Lead Pipe.



Fig. G1426.
Nickel-plated, each . . $1.00

URINAL INLET.
Iron Pipe.



Fig. G1427.
Nickel-plated, each . . $1.00

URINAL INLET.
With Flange Nut & Bent Coupling.

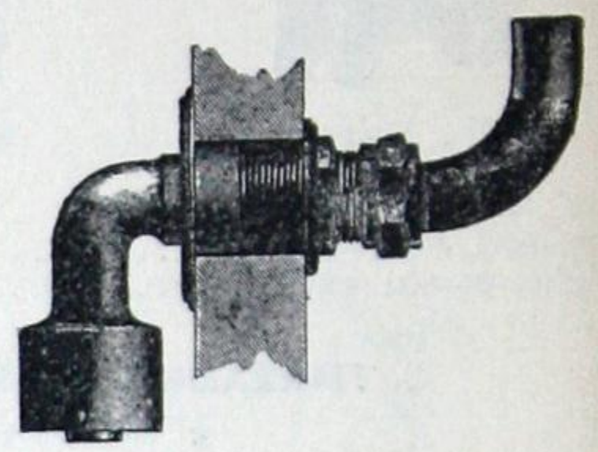


Fig. G1428.
Nickel-plated, each . . $3.50

URINAL STALL INLET SPREADERS.



Fig. G1429.
Nickel-plated, each . . $3.50



Fig. G1430.
Nickel-plated, each . . $3.00

DEEP SEAL
URINAL TRAP.



Fig. G1435.

Threaded for 1½" Iron Pipe,
Nickel-plated.
Each $10.00

URINAL FITTINGS.

URINAL TRAP.
With Flange Nut and Bent Coupling.

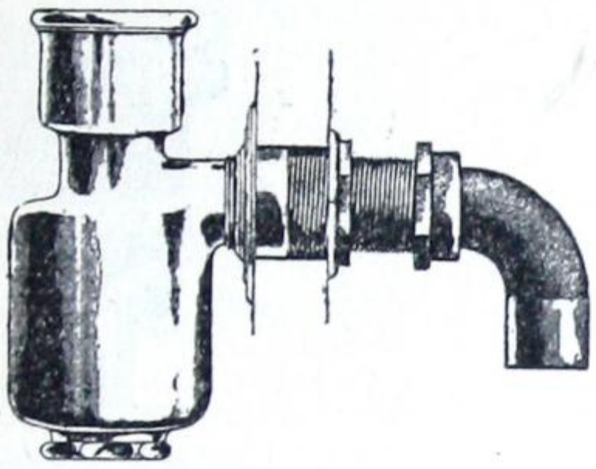


Fig. G1436.

Nickel-plated, each..... $7.50
If with Tee connection, add..... .80

ADJUSTABLE URINAL TRAP.
With Tee Connection.

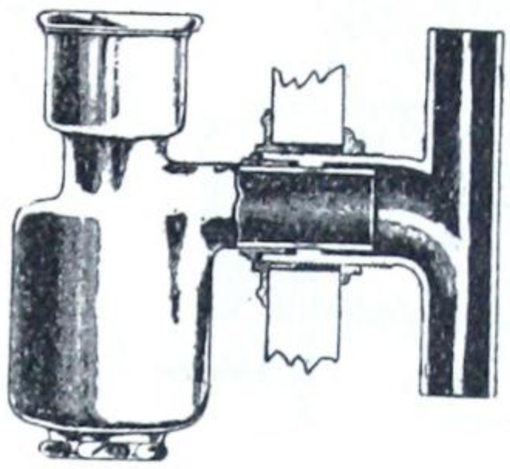


Fig. G1437.

Nickel-plated, each..... $8.30
If with Elbow connection, deduct.. .80

WHIRLPOOL URINAL TRAP.
Adjustable, with Elbow Connection.

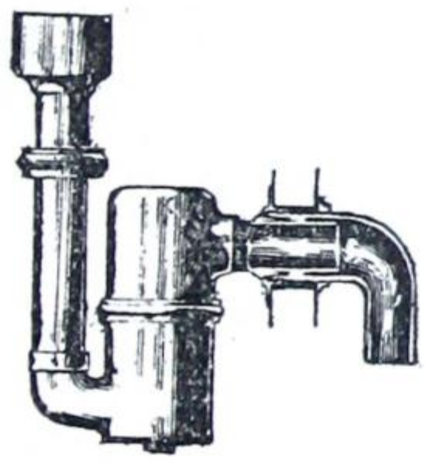


Fig. G1438.

Nickel-plated, each..... $9.00
If with Tee connection, add..... .80

URINAL OUTLET.
With Flange Nut & Bent Coupling.

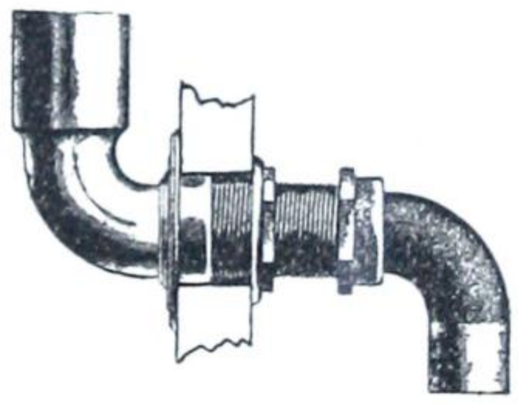


Fig. G1441.

Nickel-plated, each..... $4.70
If with Tee connection, add..... .50

ADJUSTABLE URINAL OUTLET, with Elbow Connection and Cleanout.

Fig. G1442.

Nickel-plated, each..... $4.00

ADJUSTABLE URINAL OUTLET, with Tee Connection and Cleanout.

Fig. G1443.

Nickel-plated, each..... $4.50

URINAL WASTE STRAINERS.

No. 1.

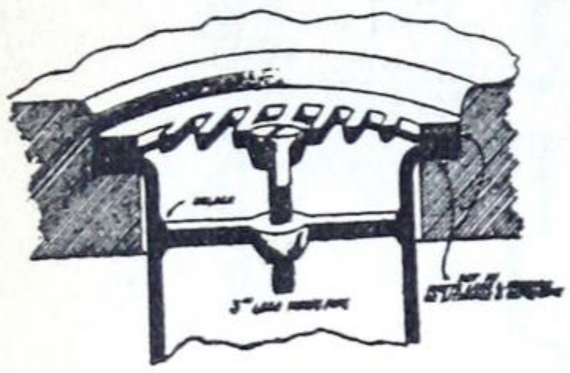


Fig. G1444.a

No. 2.

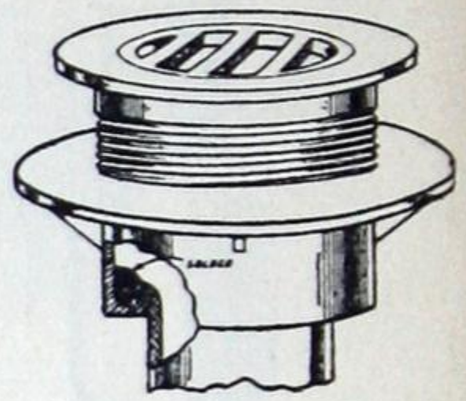


Fig. G1444.b

No. 3.

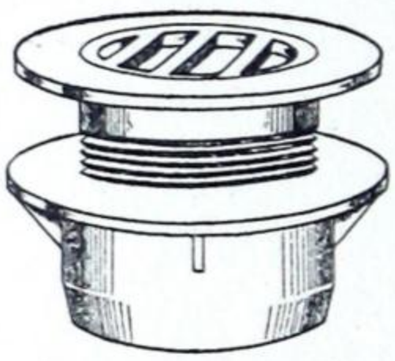


Fig. G1444.c

No. 4.



Fig. G1444.d

No. 5.

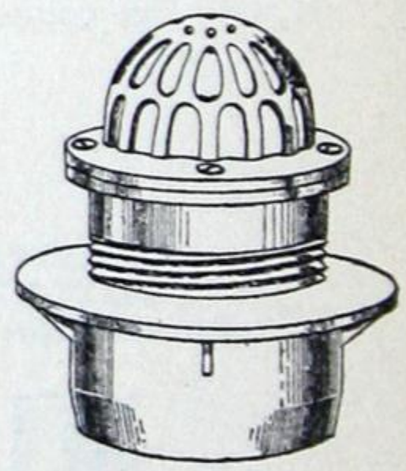


Fig. G1444.e

The above Outlets are used in conjunction with Porcelain Urinal Stalls and show the different styles of connecting to waste.

Prices on Application.

PLAIN GRATE.



Fig. G1445.a

GRATE FOR LEAD PIPE.



Fig. G1445.b

GRATE FOR SOIL PIPE.



Fig. G1446.

Size, Inches		1½	2	2½	3	4	5	6
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Plain Grate, Finished	Each	.15	.20	.25	.35	.45	.75	1.00
" " Nickel-plated	"	.20	.25	.30	.40	.55	.85	1.15
Grate for Lead Pipe, Finished	"	.25	.30	.40	.45	.75	1.00	1.50
" " " Nickel-plated	"	.30	.35	.45	.50	.85	1.20	1.75
Grate for Soil Pipe, Finished	"	.....	.50	.....	.80	1.35	2.00	3.50
" " " Nickel-plated	"	.....	.55	.....	.90	1.50	2.25	3.75

FLOOR DRAIN.
with Trap.



Fig. G1447.

Cast Brass.

Brass, each..... $7.00
Nickel-plated..... 8.00

SINK TRAP.

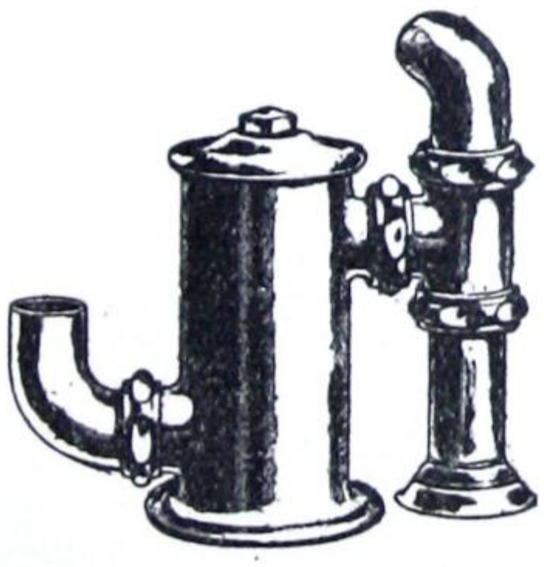


Fig. G1448.

Polished Brass, each.....$16.00
Nickel-plated, each..... 18.00
Iron, with connection for Iron Pipe.... 11.25

GREASE TRAP.

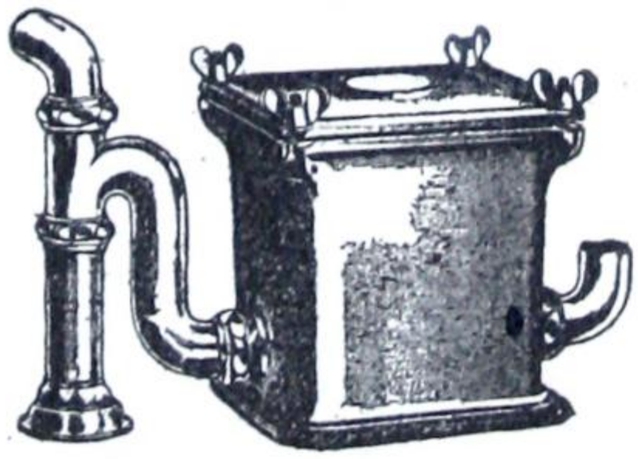


Fig. G1449.

Size of Connection, inches / Polished Brass	1½	2
Iron, Enamelled inside, each	$13.00	$15.50
Iron, Enamelled all over, each	16.00	18.50
For N.P. Connection, add	1.50	1.50

ROBERTSON'S BALL COCKS.

No. 1.

For High-Up or Low-Down Tanks.

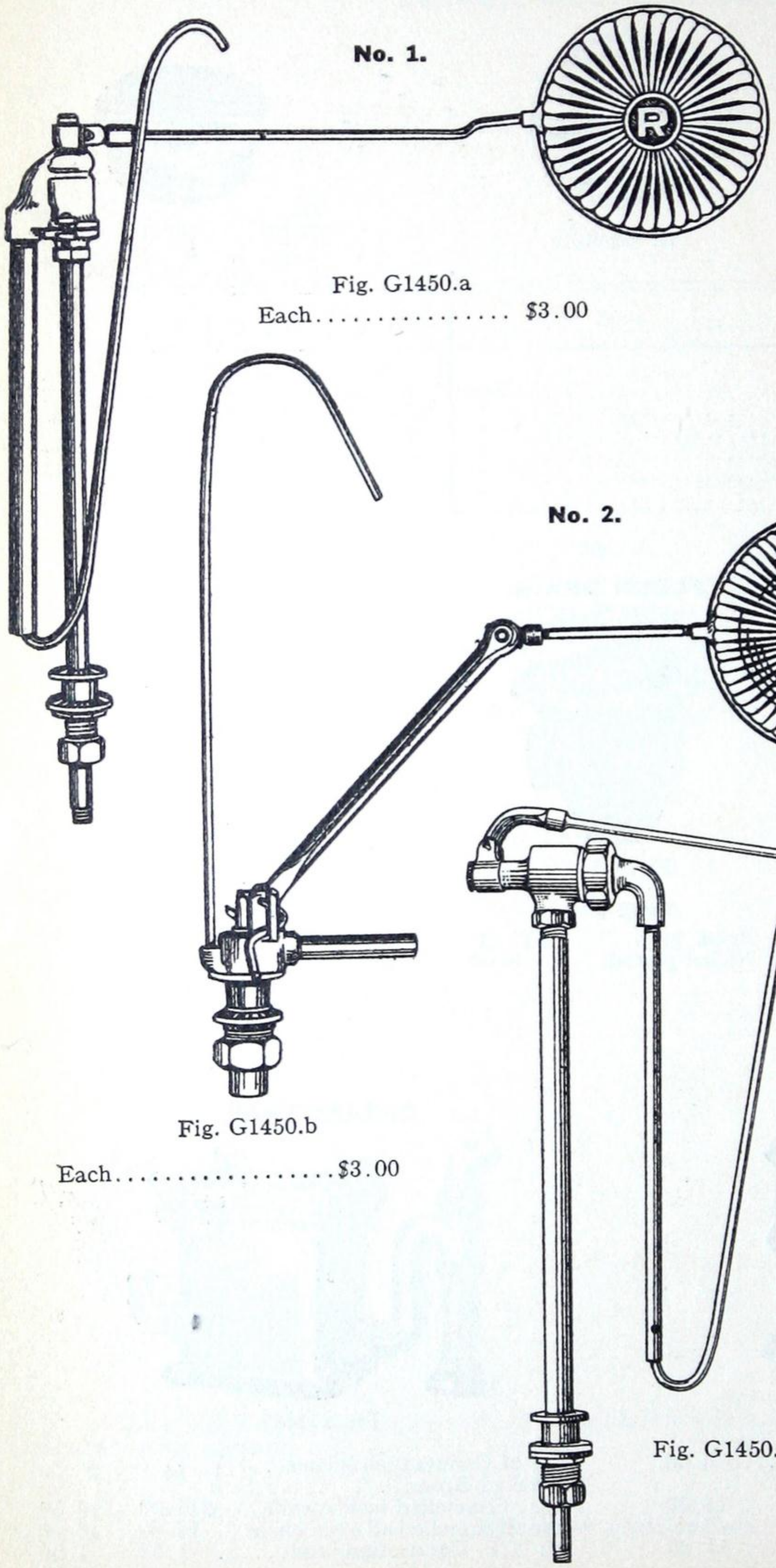


Fig. G1450.a

Each..... $3.00

No. 2.

Fig. G1450.b

Each.....$3.00

No. 3.

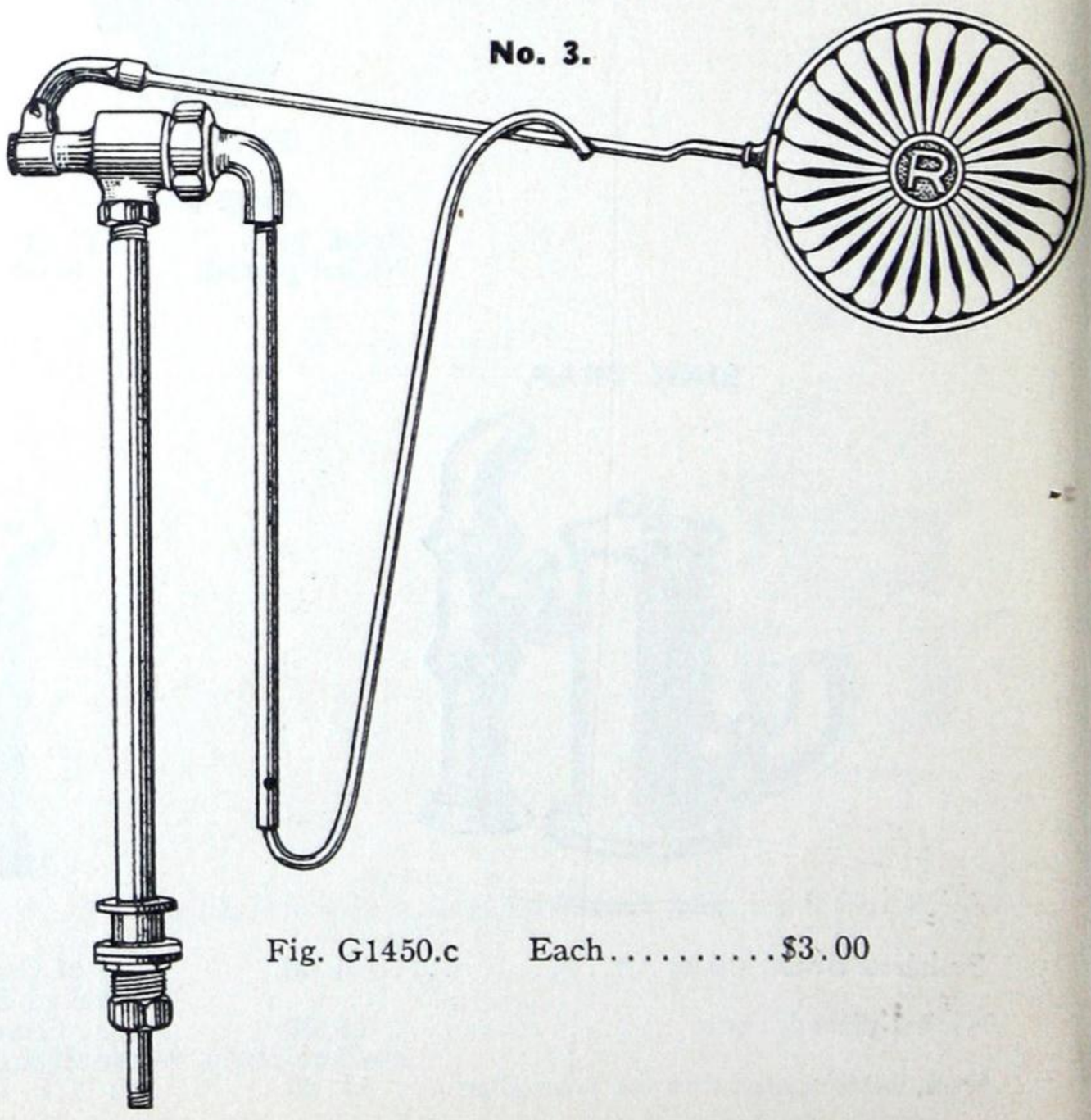


Fig. G1450.c Each.....$3.00

BALL COCKS.

McAVITY.



Fig. G1451.
Per doz.....$7.50

SUCCESS.



Fig. G1452.
Per doz $30.00

SHANKS, with Vent Coupling.



Fig. G1453.

Bent Coupling, per doz			$9.60
Size, inches	½	¾	1
Iron Pipe, per doz	$9.60	$12.00	$18.50

LAMBERT PATTERN
for Iron Pipe.



Fig. G1456.

Size, inches	½	¾	1	1¼	1½	2
Per dozen	$18.00	$27.00	$45.00	$72.00	$96.00	$168.00.

COPPER BALLS.



Fig. G1461.

Size, Diameter, Inches		5	6	8	10	12
Plain Balls, in halves	per doz.	.....	$5.00	$10.50	$25.00	$40.00
Corrugated Balls, in halves	"	$2.50	.....	.....	.....	.....
" " Soldered	"	4.80	.....	.....	.....	.....
" " with Threaded Spud	"	6.00	.....	.....	.....	.....

CISTERN VALVES.

PLAIN.



Fig. G1466.

2″, each.....$1.20

WITH OVERFLOW AND COUPLING.



Fig. G1467.

1¼″, each.....$1.30

RUSH.



Fig. G1468.

1¼″.....Each $1.50
1½″..... " 1.70
With nickel-plated Locknut and Coupling.....add .30

"JOENSON."



Fig. G1469.

1¼″.....Each $1.50
1½″..... " 1.70
With nickel-plated Locknut and Coupling.....add .30

ROBERTSON'S LOW DOWN.

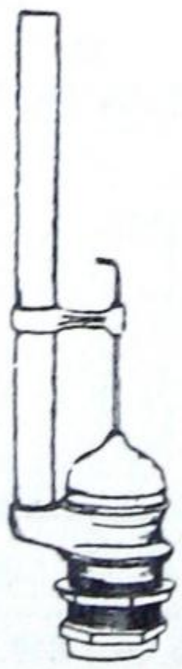


Fig. G1471.

Each..... $3.00
Extra Bulbs, each..... .60

CISTERN LEVER



Fig. G1472.

No. 1—Short, per doz..... $1.80
No. 2.—Long, per doz..... 2.40

CISTERN CLIP.

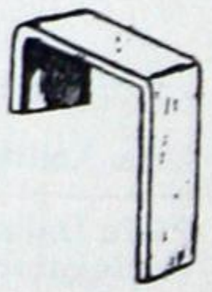


Fig. G1473.

Per pair..... $ .10

PARTS OF LOW-DOWN TANK.

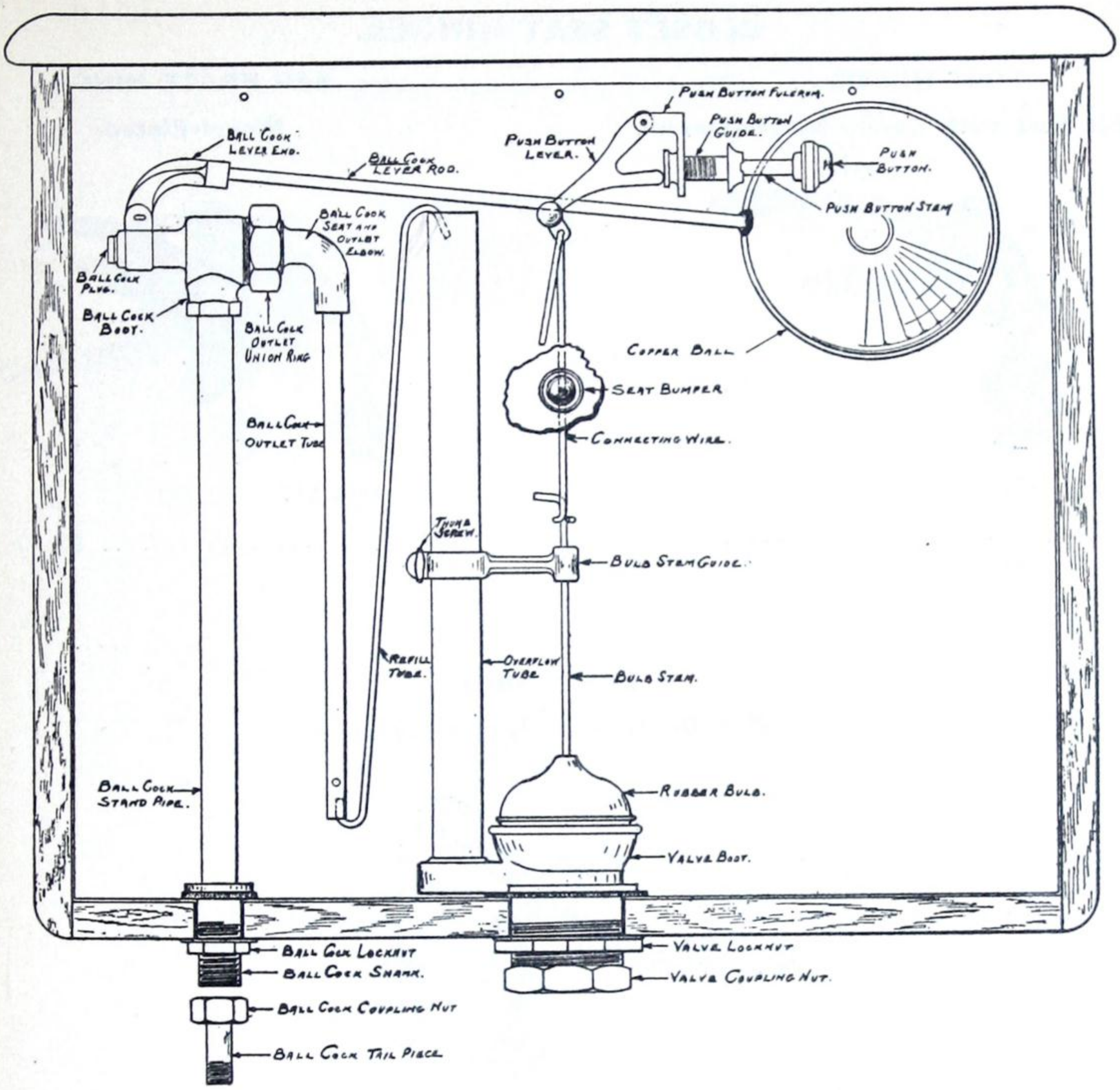


Fig. G1474.

Tank Box and Cover—Oak V. F.	Each	$3.50	Copper Ball	Each	$ .60
Tank Lining	"	1.50	Valve Coupling Nut	"	.30
Ball Cock Tailpiece	"	.15	" Locknut	"	.20
" " Coupling Nut	"	.15	" Body	"	1.50
" " Shank	"	.30	Overflow Tube	"	1.00
" " Locknut	"	.10	Bulb Stem	"	.12
" " Stand Pipe	"	.50	Bulb Stem Guide	"	.50
" " Body	"	1.00	Thumb Screw	"	.10
" " Plug	"	.30	Rubber Bulb	"	.50
" " Outlet Union Ring	"	.30	Connecting Wire	"	.06
" " Seat and Outlet Elbow	"	1.00	Push Button Lever	"	.30
" " Outlet Tube	"	.20	" " Fulcrum	"	.30
" " Lever End	"	.30	" " Guide	"	.30
" " " Rod	"	.30	" " Stem	"	.20
Refill Tube	"	.20	" Button	"	.30

Seat Bumper ..... Each $ .20

CLOSET SEAT HINGES.

POST HINGE.

For Seat with Cover—Nickel-Plated.

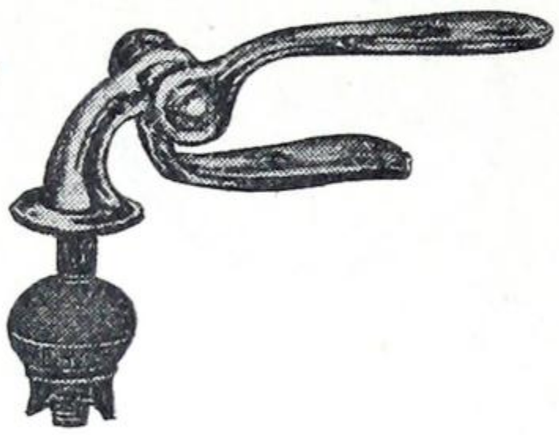


Fig. G1475a.

Per pair..... $1.60

BAR BRACE HINGE.

Nickel-Plated.

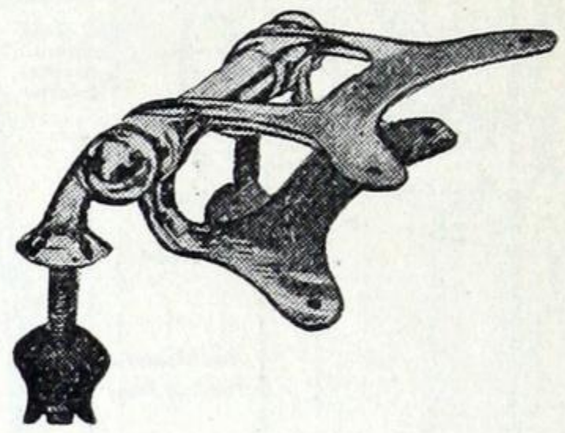


Fig. G1475b.

Per pair..... $2.70

POST HINGE.

For Single Seat—Nickel-Plated.

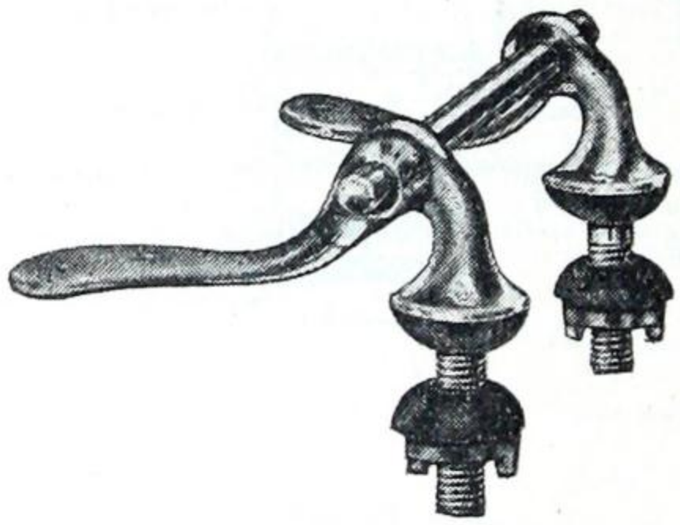


Fig. G1475c.

Per pair..... $1.50

REINFORCED HINGE.

Nickel-Plated.



Fig. G1475d.

Per pair..... $3.00

HINGE FOR FLEUR-DE-LIS SEAT.

Nickel-Plated.



Fig. G1475e.

Per pair..... $ .50

SEAT RAISING HINGE.

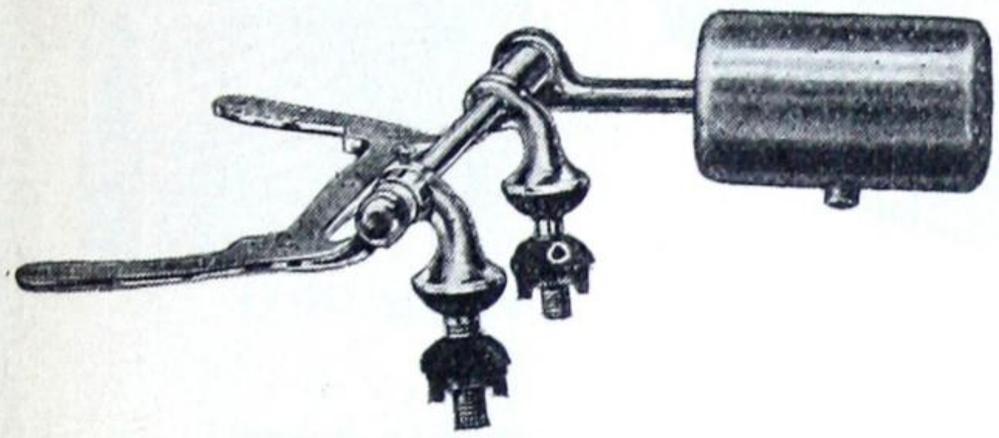


Fig. G1475f.

For Single Acme Seat.

Nickel-Plated.

Per pair..... $4.50

SEAT RAISING ATTACHMENT.

For No. 1 Single Seat.

Each..... $2.50

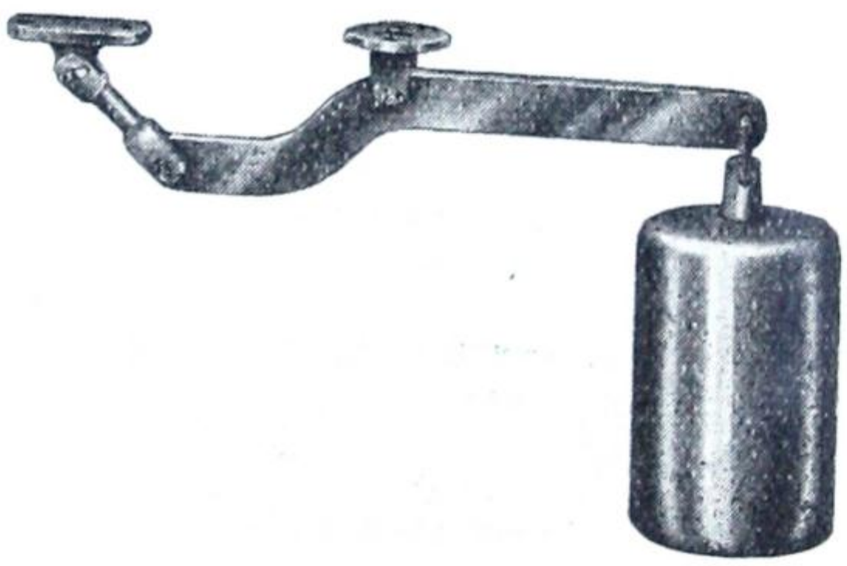


Fig. G1475g.



Fig. G1475h.

SEAT BRACE.

Nickel-Plated.

Each..... $2.00

CLOSET SEATS.

No. 1—SINGLE.



Fig. G1476.

No. 2—With Cover.

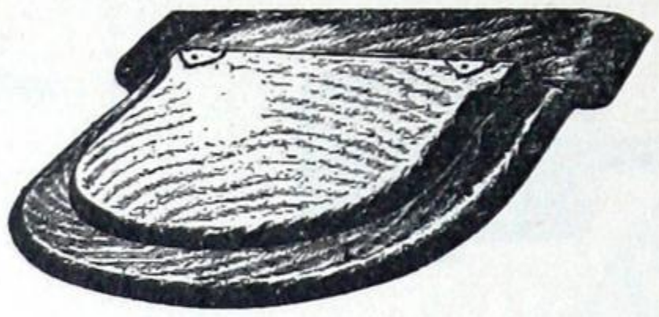


Fig. G1477.

SEAT BACK.

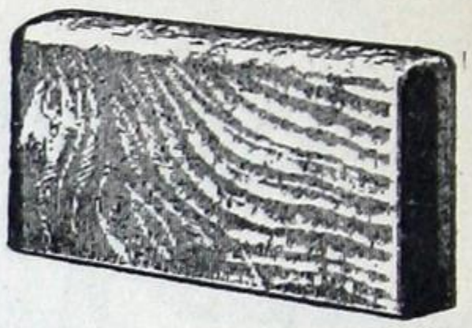


Fig. G1478.

ACME.

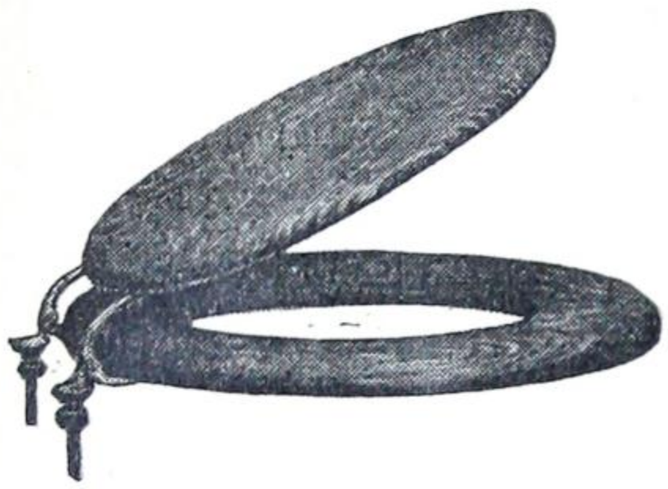


Fig. G1481.

HORSE SHOE SEAT AND COVER WITH REINFORCED HINGE.

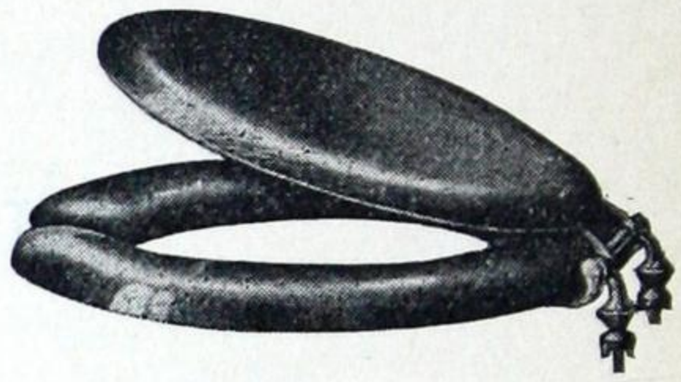


Fig. G1484.

Showing Saddle Opening.



Fig. G1482.

FLEUR DE LIS.



Fig. G1483.

	Elm or Ash.	Oak, Plain.	¼-Cut Oak.	Natural Cherry	Mahogany Finish.	Natural Mahogany.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
No. 1 Seat, V.F. ..... Each	1.70	1.90	....	....	....	....
No. 2 Seat, V.F. ..... "	1.70	2.90	....	....	....	....
" " P.P., Natural Wood ..... "	....	3.40	....	4.00	....	....
Seat Backs, V.F. ..... "	1.20	1.20	....	....	....	....
" " P.P. ..... "	....	1.60	....	2.00	....	....
Acme Seats, V.F., with Post Hinges ..... "	....	5.00	....	....	....	....
" " P.P. " " " Natural Wood "	....	5.50	6.10	6.30	6.10	7.40
Horse-Shoe Seat Reinforced Hinge P.P. ..... "	....	7.50	8.10	8.30	8.10	9.40
Fleur de Lis Seat, V.F., Strip Hinge, ... "	....	2.70	....	....	....	....
" " " P.P. " " Natural Wood "	....	4.00	....	4.50	....	....
" " " V.F., Post Hinges	....	4.00	....	....	....	....

V.F. Varnish Finish. P.P. Piano Polish.

TANK BOARDS.

Long—2 Piece.



Fig. G1488.

Shield.



Fig. G1489.

Number (Suitable for Tanks)		1	2	3
Size, Width, Inches		22	24	26
		$ c.	$ c.	$ c.
Two piece Long Board, Elm or Oak V. F.	Each	1.40	....	....
" " " " Oak, V. F.	"	2.20	....	....
Shield Boards, Plain Oak, V.F.	"	2.20	2.40	2.60
" " " " P.P.	"	2.70	2.90	3.10
" " Quarter Cut Oak, P.P.	"	3.10	3.35	3.60
" " Natural Cherry, P.P.	"	3.25	3.50	3.75
" " Mahogany Finish, P.P.	"	3.10	3.35	3.60
" " Genuine Mahogany, P.P.	"	4.70	5.00	5.75

V.F. Varnish Finish. P.P. Piano Polish.

HIGH-UP CHINA CLOSET TANKS.

Square Front.

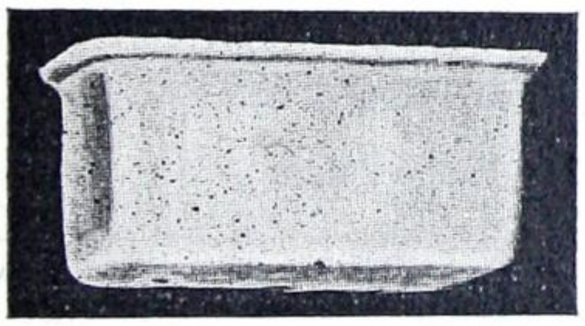


Fig. G1490a.

Bellemeade.

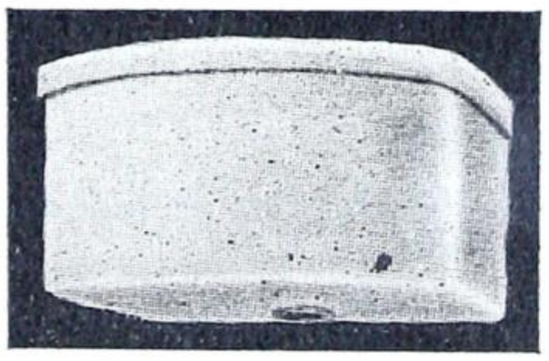


Fig. G1490b.

Capacity	5 Gallons		7 Gallons	
	Tank only	Complete	Tank only	Complete
Square Front	$12.00	$18.00	$12.00	$18.00
Bellemeade	12.00	18.00	12.00	18.00

Note.—China Tanks, complete, are fitted with Ball Cock and Ball, 1½" Rush Valve with Nickel-Plated Locknut and Coupling, Lever and Rest, No. 4 Pull and Nickel Plated Chain.

HIGH-UP CLOSET TANKS.

WOOD.

PINE.

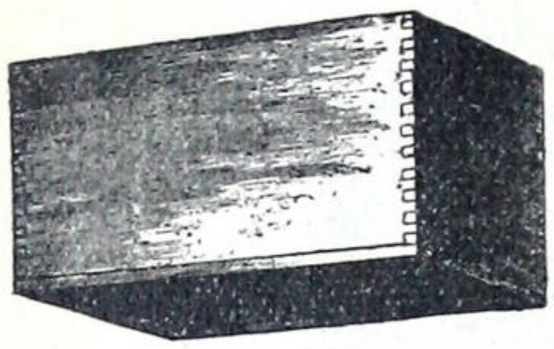


Fig. G1491.

ROUND CORNER.

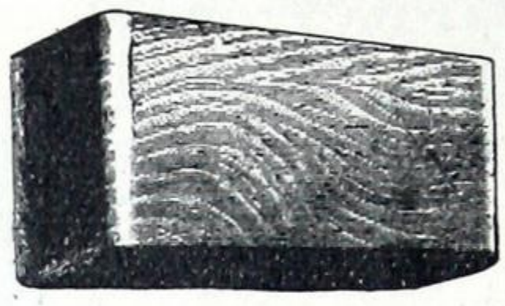


Fig. G1492.

ROUND CORNER. With Top Moulding.

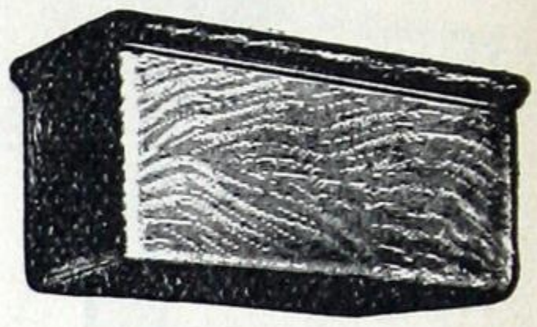


Fig. G1493.

	WOOD TANKS.												
Number	1					2				3			
Size of Tank, Inches	8 x 17 x 10					9 x 20 x 10				11 x 23 x 10			
Capacity in gallons (approximate)	5					7				10			
	A	B	C	D	E	A	B	D	E	A	B	D	E
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Pine, plain	.70	2.20	5.40	....	....	....	....	....	....	....	....	....	....
Rd. Cor., Ash or Elm, V.F	1.50	3.00	6.20	6.35	....	....	....	....	....	....	....	....	....
" Oak, V. F	2.00	3.50	....	6.85	....	2.60	4.30	7.70	....	2.85	4.85	8.20	....
" Oak, P.P	2.50	4.00	....	....	7.75	....	....	....	....	....	....	....	....
" Oak Moulding, P.P	....	....	....	....	....	3.50	5.20	....	9.00	3.80	5.80	....	9.60
Add to Oak P.P. List	$ .20					$ .50				$ .50			
For P.P. ¼-Cut Oak	.50					.70				.80			
" Natural Cherry	.20					.50				.50			
" Mahogany Finish													
" Genuine Mahogany	1.90					2.50				2.70			

If with Japanned Brackets, add per pair, 11c.
If with Nickel-plated Brackets, add per pair, 40c.

DESCRIPTION OF TANKS.

A.—Boxes only.

B.—Boxes Copper-lined only.

C.—Complete with Copper Linings, Ball Cock and Ball, 1½" Rush Valve, Lever and Rest, No. 1 Pull and Brass Chain.

D.—Complete with Copper Lining, Ball Cock and Ball, 1½" Rush Valve with Nickel-plated Locknut and Coupling, Lever and Rest, No. 3 Pull and Nickel-Plated Chain.

E.—Complete with Copper Lining, Ball Cock and Ball, 1½" Rush Valve with Nickel-plated Locknut and Coupling, Lever and Rest, No. 4 Pull and Nickel-Plated Chain.

V.F.—Varnish Finish.

P.P.—Piano Polish.

AUTOMATIC URINAL TANKS.

Size of Tanks, inches	8x17x10	9x20x10	11x23x10
Capacity in gallons, approximate	5	7	10
Add to list above of Boxes lined only	$7.00	$7.00	$7.00

LOW-DOWN CLOSET TANKS.

WOOD.

No. 1—PLAIN.

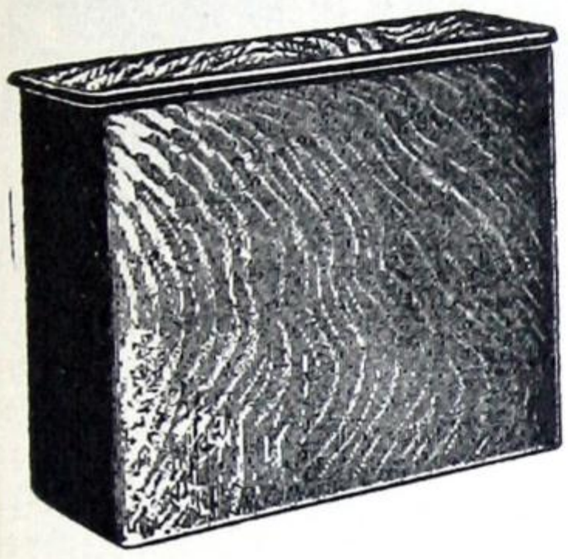


Fig. G1496.

No. 2—PANEL.

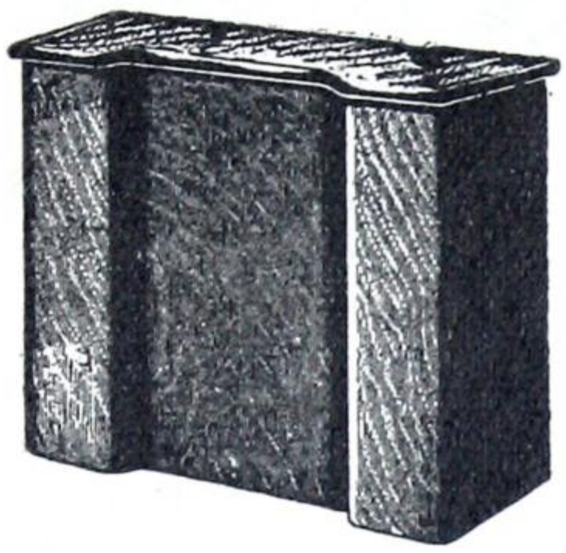


Fig. G1497.

No. 4.—SWELL FRONT.



Fig. G1498.

CHINA.

SQUARE FRONT.

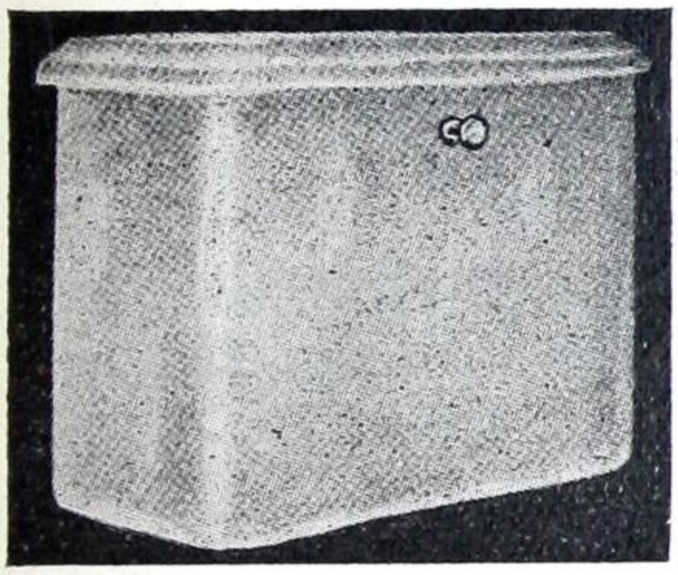


Fig. G1499a.

BELLEMEADE.

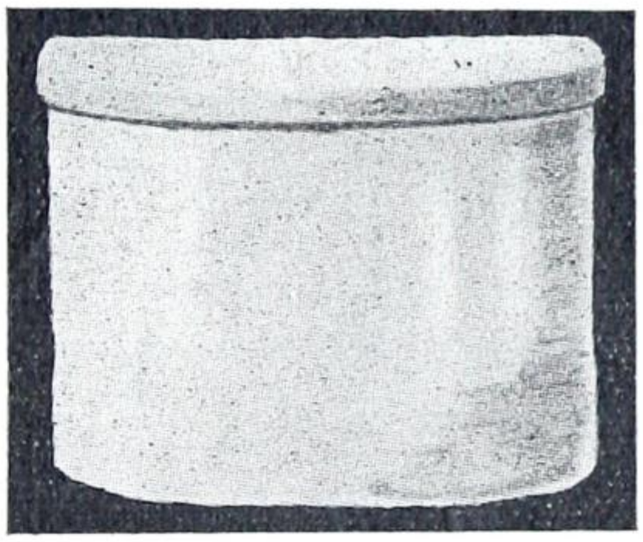


Fig. G1499b.

SWELL FRONT.

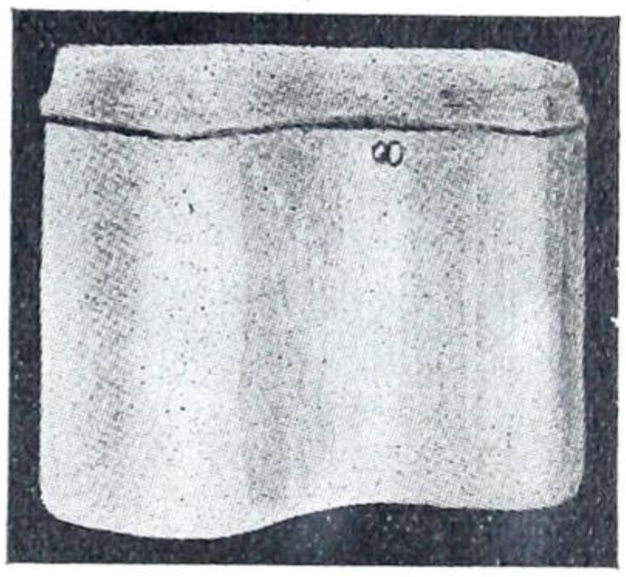


Fig. G1499c.

NUMBERS.		WOOD TANKS. 1	2	4	CHINA TANKS. Complete	
		$ c.	$ c.	$ c.		$ c.
Oak, V.F	Complete	12.60	13.70	.....	Square Front	20.00
Oak, P.P	"	13.40	14.20	.....		
Quarter Cut Oak, P.P	"	13.95	14.80	18.00	Bellemeade	20.00
Natural Cherry, P.P	"	14.10	15.20	18.00	Swell Front	20.00
Mahogany Finish, P.P	"	13.95	14.80	.....		
Genuine Mahogany, P.P	"	16.00	17.20	20.20		

If without supply pipe, deduct 80c.
If without Flush Elbow or Offset, deduct 90c.
Complete Tank consists of Wood Tank, Copper Lining Fitted (or China Tank), Robertson's 2" Flush Valves, Elevated Ball Cock and Ball, Centre Push Button, Nickel-plated Supply Pipe to floor, and 2" Nickel-plated Flush Elbow or Offset.

NOTE.—All our Wood Tank Linings have joints double seamed, sweated with solder and squared by our own special method, before putting into Tank. China Tanks are not Lined.

EARTHENWARE BASINS.

ROUND, No Overflow.



Fig. G1501.

ROUND, Common Overflow.



Fig. G1502.

ROUND, Patent Overflow.



Fig. G1503.

OVAL, No Overflow.



Fig. G1506.

OVAL.
Patent Overflow.

Fig. G1507.

FLAT BACK.
Patent Overflow.

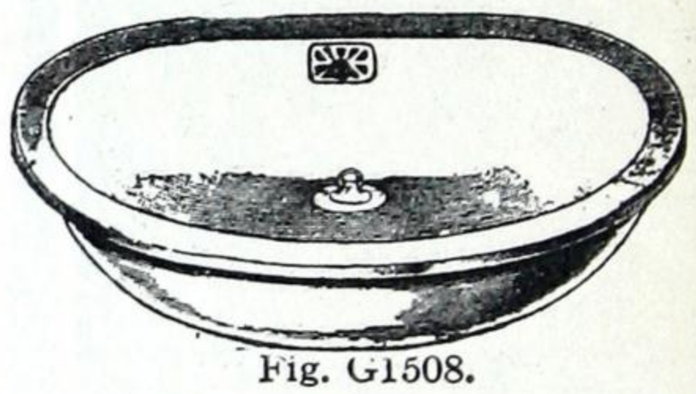


Fig. G1508.

Size, Inches		ROUND 12	13	14	15	16	OVAL. 14 x 17	15 x 19
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
No Overflow	Each	1.00	1.00	1.00	1.50	2.00	2.50	3.50
Common Overflow	"	1.00	1.00	1.00	1.50	2.00	2.50	3.50
Patent Overflow	"	1.25	1.25	1.25	2.00	2.50	3.00	4.00
Flat Back, Patent Overflow	"	....	....	....	....	....	5.60	6.60

CAST-IRON ENAMELLED BASINS.—Patent Overflow.

ROUND.



Fig. G1511.

OVAL.

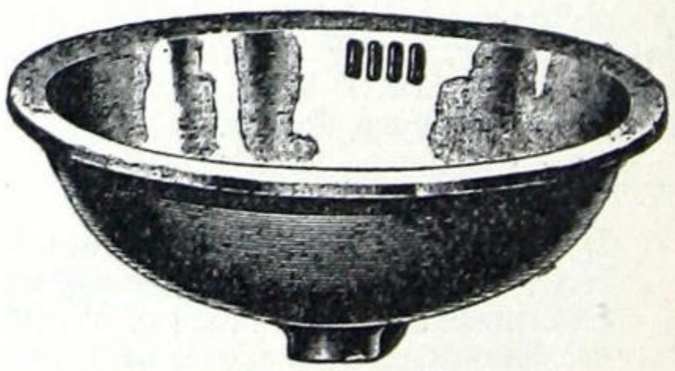


Fig. G1512.

Size, inches	Round. 14	16	Oval. 14x17	15x19
Each	$4.50	$6.00	$6.00	$6.50

EARTHENWARE URINALS.

FLAT BACK.

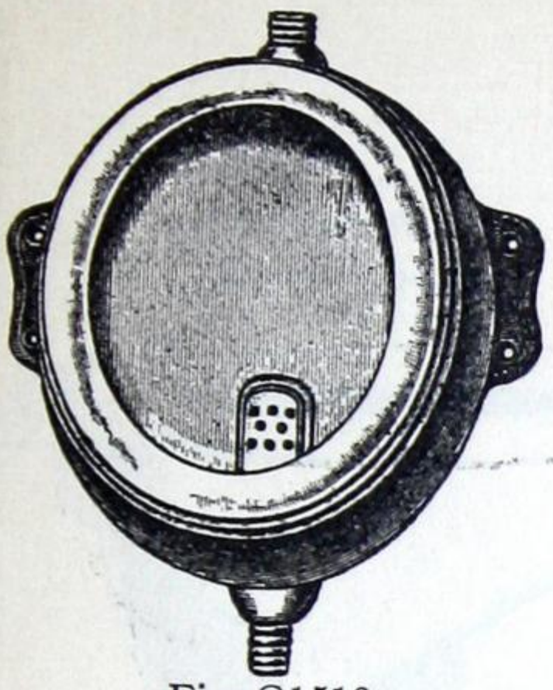


Fig. G1516.

FLAT BACK—Lipped.



Fig. G1517.

FLAT BACK—Lipped, With Hood and Vent.

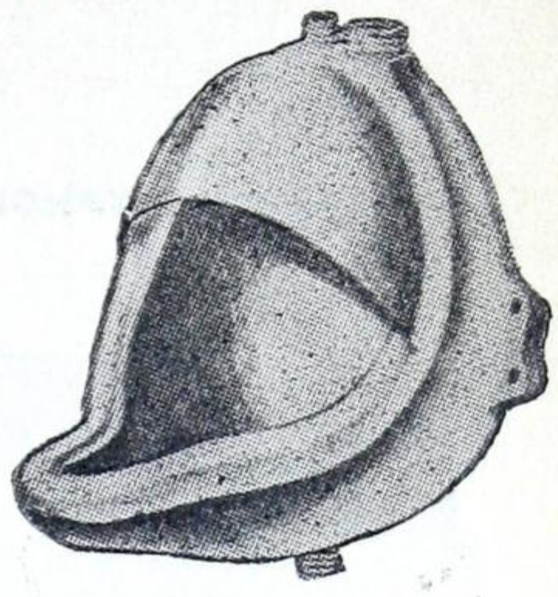


Fig. G1518.

CORNER.

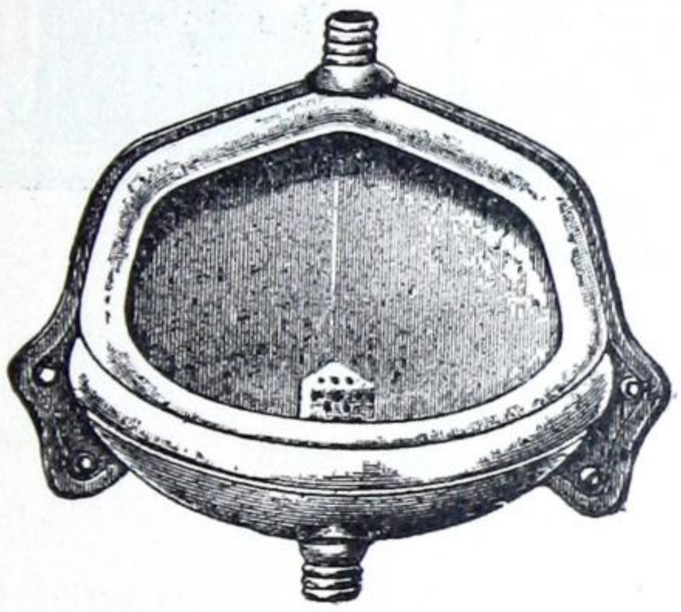


Fig. G1519.

CORNER—Lipped.

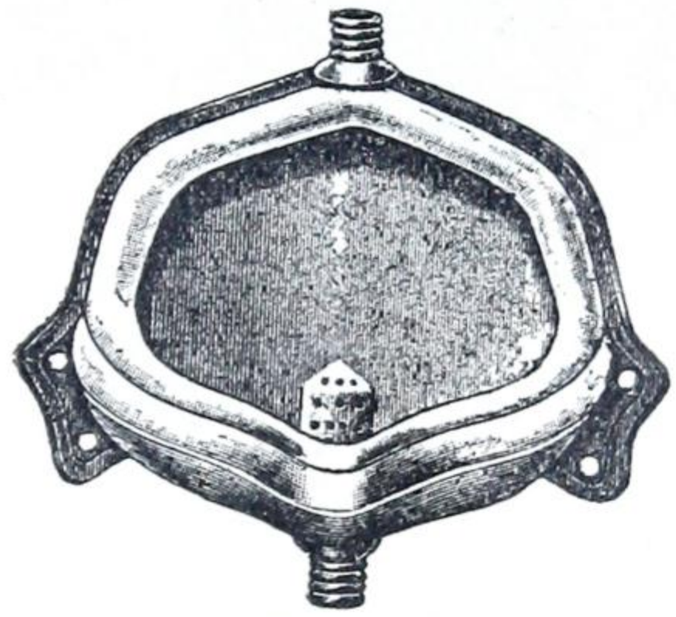


Fig. G1520.

Number	1—Large.	2—Medium.	3—Small.
Size, Inches	15 x 18	13 x 15	12 x 14
Flat Back ..... Each	$ 8.00	$6.00	$5.00
" " Lipped ..... "	10.00	8.00	7.00
Size, inches	13 x 13	11½ x 11½	10½ x 10½
Corner ..... Each	$ 8.00	$6.00	$5.00
" Lipped ..... "	10.00	8.00	7.00

If with Hood and Vent, add to List, $2.00.

SYPHON JET URINAL. With Top Inlet and Bottom Outlet.

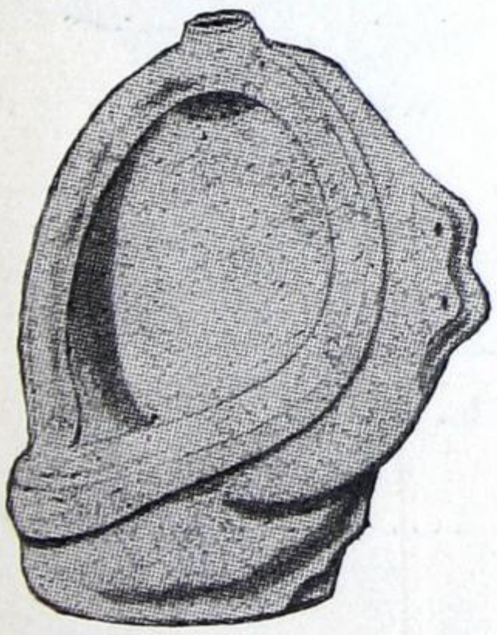


Fig. G1521.

No.	1	2
Each...	$15.00	$13.00

KINGDON JET URINAL. With Brass Waste Outlet.

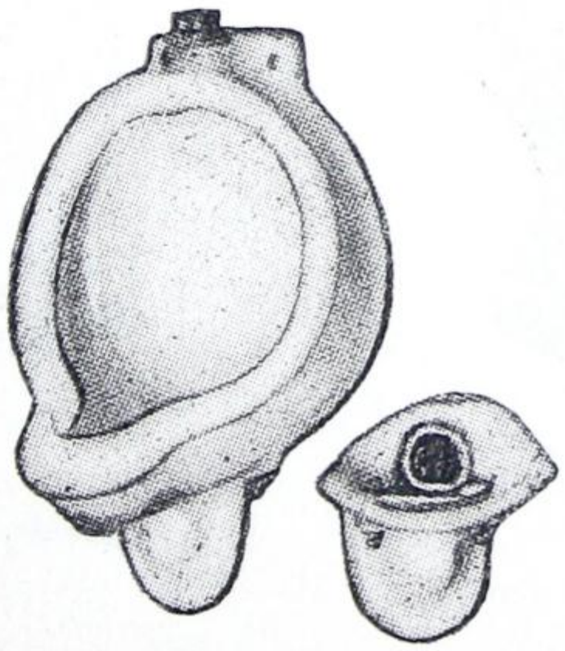


Fig. G1522.

Each.....$30.00

STEVENS' URINAL. With Top or Back Inlet.



Fig. G1523.

Each.....$10.50

ACME SYPHON JET.



Fig. G1526.

Each.....$17.00

FLEUR DE LIS.
Syphon Action.



Fig. G1527.

Each..... $8.50

Seat Vents, each.....40c. extra.

Right and Left Seat Vents are taken when facing closet.

NATURO.
Syphon Jet.

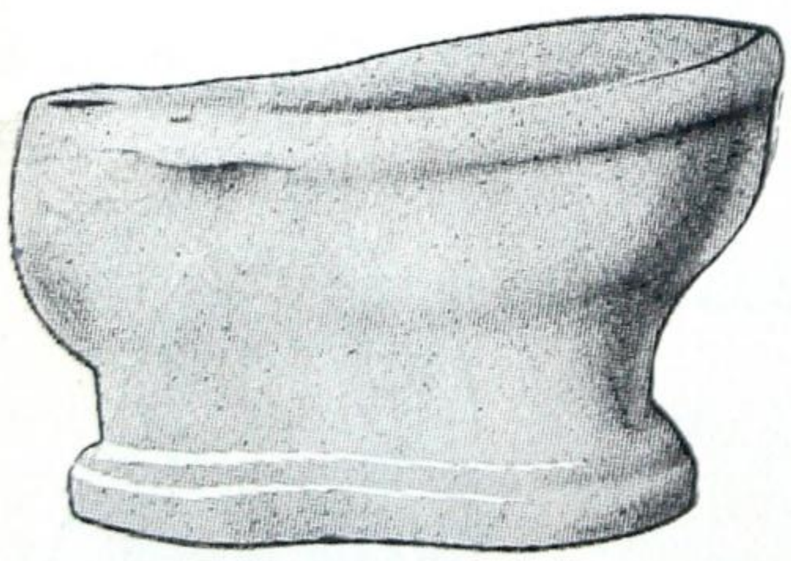


Fig. G1531.

Each.....$38.00

NATURO.
Syphon Action.

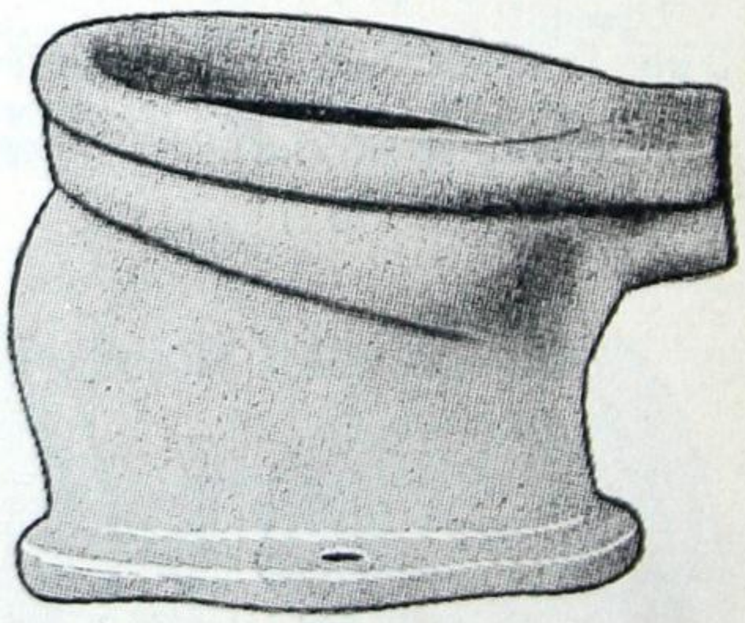


Fig. G1532.

Each.....$18.00

RICHELIEU CLOSET.



Fig. G1536.

Each..... $8.00
Seat attachment, each.....50c. extra.
Seat Vents, each.....40c. "

CAST-IRON ENAMELLED HOPPERS.

No. 3900.—Old Style.



Fig. G1537.

Each..... $3.50

No. 3915.—New Style.



Fig. G1538.

Each.....$8.00

GALVANIZED RANGE BOILERS.

VERTICAL



Fig. G1541.

Standard Tested	**200 lbs.**	**Working Pressure**	**85 lbs.**
Extra Heavy Tested	**250 "**	**" " **	**150 "**
Double Extra Heavy	**300 "**	**" " **	**200 "**

HORIZONTAL.

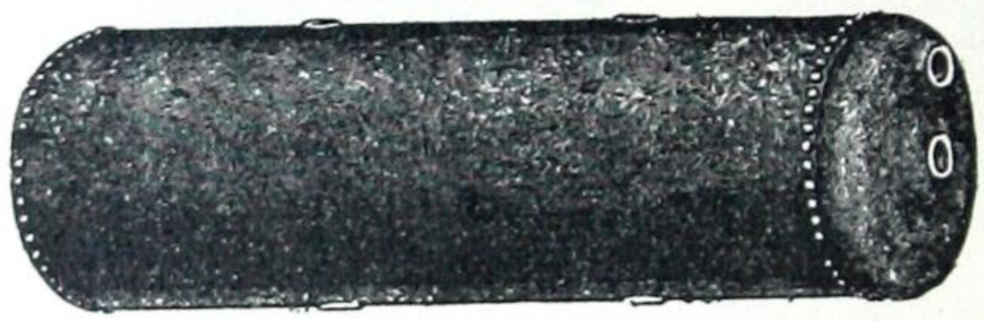


Fig. G1542.

Capacity, Gallons Diameter, inches Length, Feet	18 12 3	24 12 4	30 12 5	35 13 5	40 14 5	52 16 5	66 18 5	82 20 5	100 22 5	120 24 5	144 24 6	168 24 7	192 24 8
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, Standard.....Each	14.50	15.75	19.00	21.00	24.00	31.00	38.00	45.50	63.50	72.50	103.00	120.00	132.00
Price, Extra Heavy..... "	14.50	15.75	19.00	21.00	24.00	31.00	38.00	45.50	63.50	72.50	103.00	120.00	132.00

Double Extra Heavy. Prices on application.

Special sizes and Tappings made to order. Stock sizes 18 to 66 gallons Tapped for 1" Iron Pipe; 82 to 120 Tapped 1¼"; and 144 to 192 Tapped 1½".

GALVANIZED COIL PRICE LIST. Size	12"	14"	16"	18"	20"	22"	24"
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Additional to Price of Boiler.....	10.50	12.00	16.00	18.00	21.00	25.00	30.00

EXPANSION TANKS.



Fig. G1543

Capacity.	Diameter, Inches.	Length, Inches.	Price, each.
10	12	20	$8.00
15	12	30	9.00
18	12	36	9.50

GALVANIZED RANGE BOILERS. With Galvanized Iron Steam Coils.

STANDARD AND EXTRA HEAVY.

VERTICAL.

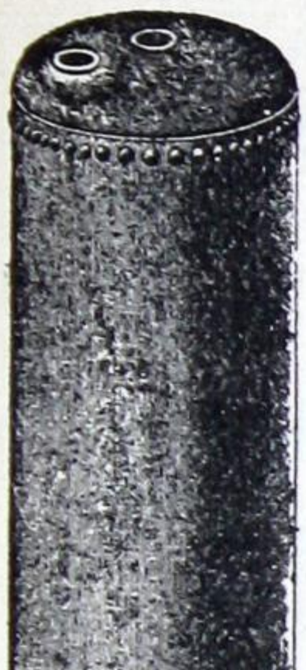


Fig. G1546.

HORIZONTAL—Coil Outlets at Top and Bottom.



Fig. G1547.

HORIZONTAL—Coil Outlets at Bottom.



Fig. G1548.

HORIZONTAL—Coil Outlets at End.

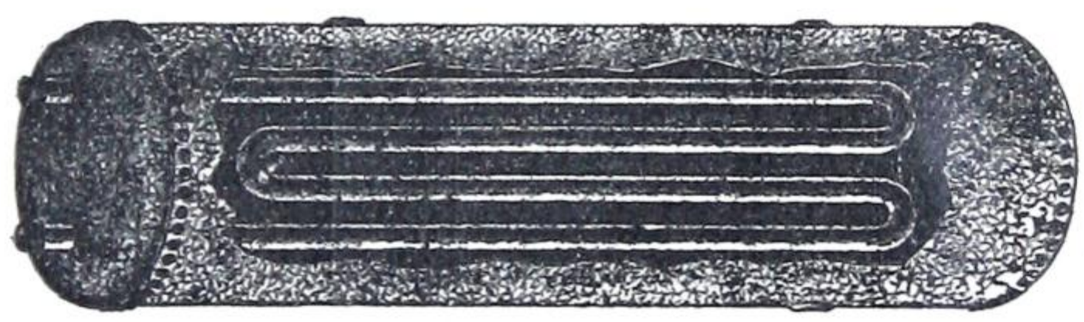


Fig. G1549.

Can also be supplied with Brass or Copper Coils.

Prices on Application.

BOILER STANDS.

ADJUSTABLE.

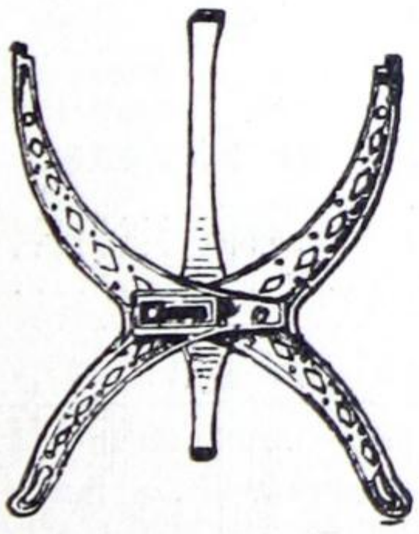


Fig. G1551.

Adjust 12″ to 16″.

Price, each..... $0.90

SOLID.



Fig. G1552.

Size, Diameter of Ring, Inches..	12	13	14	16	18	20	22	24
Price, each.....	$1.25	$1.30	$1.40	$1.75	$2.50	$3.00	$3.50	$4.00

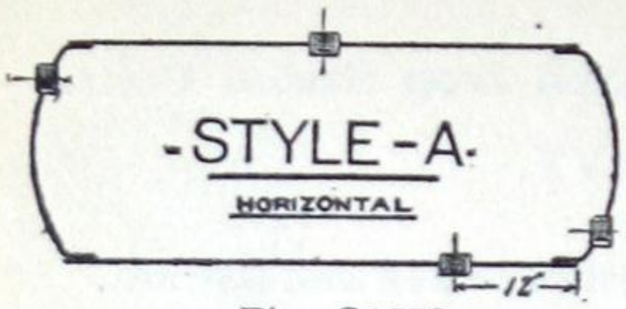


Fig. G1553.

STORAGE TANKS.

BLACK AND GALVANIZED.



Fig. G1554.

CAPACITY IN GALLONS.	53	66	79	82	94	98	100	120	144	170	180
Diameter.....Inches.	18	18	18	20	24	20	22	24	24	24	30
Length.....Feet.	4	5	6	5	4	6	5	5	6	7	5
Price. Black.....Light Weight.	28.00	31.00	34.00	33.00	36.50	36.00	37.00	40.00	48.50	53.00	58.00
" Galvanized. " "	35.00	39.50	43.50	42.00	48.00	46.50	47.50	53.50	64.00	70.50	80.00
Price. Black.....Standard.	36.00	40.00	44.00	42.00	46.50	46.00	47.00	51.50	56.00	62.00	70.00
" Galvanized..... "	45.00	51.00	56.50	53.50	61.00	59.00	60.00	68.00	76.00	84.00	96.50
Price. Black.....Extra Heavy.	49.50	55.00	60.00	60.00	65.50	65.00	65.00	71.50	78.00	84.00	92.00
" Galvanized. " "	62.50	70.00	77.50	76.50	86.00	83.50	83.50	95.00	104.50	113.50	128.00
Size Iron Pipe.Inches.Coil Recom.	1	1	1	1	1¼	1	1	1¼	1¼	1¼	1¼
Length. Feet..... " "	12	12	14	14	13	16	16	17	21	25	18

CAPACITY IN GALLONS.	188	215	250	265	300	325	360	365	372	420
Diameter.....Inches.	24	30	30	36	30	36	42	36	30	36
Length.....Feet.	8	6	7	5	8	6	5	7	10	8
Price. Black.....Light Weight.	56.00	62.50	67.50	71.00	74.50	77.00	98.00	83.00	84.00	90.50
" Galvanized..... " "	74.00	87.00	95.00	98.00	104.50	107.50	.....	116.00	119.00	127.50
Price. Black.....Standard.	65.50	76.00	84.50	86.00	90.50	93.50	107.00	100.50	101.50	109.00
" Galvanized..... "	88.50	106.00	119.00	119.00	127.00	130.50	.....	142.00	145.50	154.00
Price. Black.....Extra Heavy.	88.50	98.50	106.00	110.50	113.50	120.00	132.00	127.50	127.50	135.50
" Galvanized..... " "	120.50	139.00	151.50	156.00	163.00	170.00	.....	183.50	187.00	197.00
Size Iron Pipe. Ins. Coil Recommended.	1¼	1¼	1¼	1½	1¼	1½	2	1½	1¼	1½
Length. Feet..... " "	28	21	24	18	28	21	26	24	36	28

CAPACITY GALLONS.	430	440	500	530	565	575	635	659	720	750
Diameter.....Inches.	42	30	42	36	48	42	36	48	42	48
Length.....Feet.	6	12	7	10	6	8	12	7	10	8
Price. Black.....Light Weight.	104.00	90.00	112.00	105.50	.....	120.00	117.00	.....	144.00	.....
" Galvanized..... " "	.....	134.00	.....	148.50	.....	.....	166.50	.....	.....	.....
Price. Black.....Standard.	112.50	113.50	120.50	132.00	162.50	130.50	147.50	173.50	154.00	184.00
" Galvanized..... "	.....	164.00	.....	187.00	.....	.....	210.00	.....	.....	.....
Price. Black.....Extra Heavy.	140.50	142.50	148.50	152.50	202.00	157.00	168.00	216.00	177.00	228.00
" Galvanized..... " "	.....	210.50	.....	225.00	.....	.....	252.00	.....	.....	.....
Size Iron Pipe. Ins. Coil Recommended	2	1¼	2	1½	2	2	1½	2	2	2
Length. Feet..... " "	31	40	36	36	31	41	40	36	52	41

CAPACITY IN GALLONS.	865	940	1008	1130	1150	1300	1500	1700	1880	2260
Diameter.....Inches.	42	48	42	48	42	48	48	48	48	48
Length.....Feet.	12	10	14	12	16	14	16	18	20	24
Price. Black.....Light Weight.	207.00	.....	228.00	.....	252.00	.....	.....	.....	.....	.....
Price. Black..... Standard.	219.00	204.00	235.50	249.50	255.00	272.00	292.00	312.00	334.00	399.00
Price. Black.....Extra Heavy.	249.50	254.00	293.00	278.00	317.00	338.00	364.00	390.00	415.00	497.00
Size Iron Pipe. Ins. Coil Recommended.	2	2	2	2	2	2	2	2	2	2
Length. Feet..... " "	60	52	70	60	80	70	80	90	100	110

Capacities are in U.S. Gallons. If required in Imperial Gallons deduct one-fifth. Storage Tanks up to 22" Diameter Tapped for 1¼" Iron Pipe; 24" Diameter tapped 1½"; 30" and over tapped 2". Number of Tappings, four.

COIL PIPE LIST.

Material.	Price per Lineal Foot.			
	1"	1¼"	1½"	2"
Black Iron Pipe..	.56	.68	.73	.96
Galv. Iron Pipe....	.68	.79	.90	1.24
Copper Pipe.....	1.69	2.42	2.70	3.37
Brass Pipe.....	2.14	3.04	3.49	5.00

Spiral Coils can be furnished.
Prices on Application.

LIST OF EXTRAS.

11 x 15 Manhole in Head.....Each	$25.00
11 x 15 " Shell..... "	27.50
4 x 6 Handhole..... "	6.25
3 x 4½ " ..... "	5.00

Ex. Tappings	¾"	1"	1¼"	1½"	2"	2½"	3"
Price...Each	.65	.90	1.15	1.40	1.65	2.00	2.25

No extra charge will be made for different location of Tappings provided they do not exceed number and size shown on Standard.

DIRECTIONS FOR ORDERING STORAGE TANKS.

1. State weight of Tank—if not specified, "Standard" will be supplied.
2. State whether Vertical or Horizontal Tank is wanted.
3. State whether Black or Galvanized Tank is wanted.
4. If Special Tappings are wanted kindly send "Sketch."
5. When ordering Tank with Coil, state kind of Coil, Size and Number of Feet wanted.

SIMS CLEAN E.Z. HEATERS, B.H. TYPE, FOR LIVE OR EXHAUST STEAM.

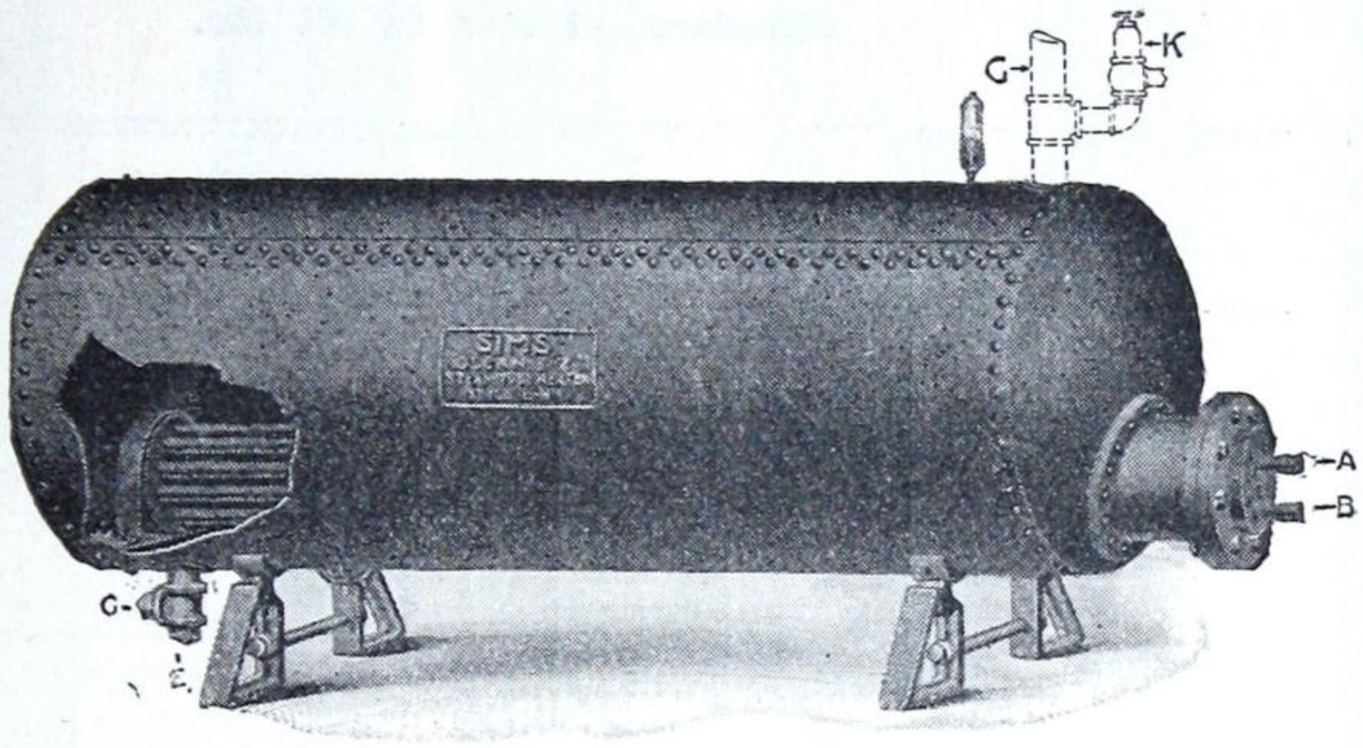


Fig. G1555.

These Heaters are furnished in any size from 24″ x 48″, having a storage capacity of 94 gallons, and capable of heating 100 gallons of water per hour to 180 degrees with steam at 5 pounds pressure, up to 60″ x 168″, having a storage capacity of 2,052 gallons and capable of heating 3,000 gallons of water per hour with steam at one pound pressure. They can be adapted to any service, are easily cleaned, the heating coil is removable, and are suitable for water pressure up to 100 lbs., and steam pressures up to 100 lbs. The prices are very reasonable, and the Heaters are of reliable and standard make.

Prices will be furnished **on application** on giving the quantities of water required and the steam pressure to be used. They will also be tapped for Jacket Heater connections without extra charge. Supports are furnished free with Heater.

LIST OF SIZES.

Diameter.....Inches	24	24	24	30	30	30	30	36	36	36	36	36	36	42	42	42
Length..... "	48	60	84	60	72	84	96	60	72	84	96	108	120	72	84	96
Storage Capacity.....Gallons	94	117	164	184	221	258	300	265	318	370	425	475	530	430	500	575

Diameter.....Inches	42	42	42	42	48	48	48	48	48	54	54	54	60	60	60
Length..... "	108	120	144	168	96	108	120	144	168	120	144	168	120	144	168
Storage Capacity.....Gallons	650	720	860	1040	754	848	950	1130	1320	1190	1428	1665	1473	1757	2052

COPPER RANGE BOILERS.



Fig. G1556.

DOUBLE RIVETED.

Standard.—Tested to 200 lbs.

Capacity. Gallons.	Sizes.		Price, each.
	Length, feet.	Diameter, inches.	
			$ c.
30	5	12	35.00
35	5	13	39.00
40	5	14	43.00
45	5¾	14	50.00
50	6	14	58.00
60	6	16	68.00
70	6	17	80.00
80	6	18	95.00
90	6	19	115.00
100	6	20	150.00
120	6	22	200.00
144	6	24	250.00
168	7	24	300.00
192	6	28	350.00

ROUND BOTTOM BOILER STANDS.



Fig. G1557.

Diameter of Ring, Inches	12	13	14	16	18	20	22	24
Price, each.....	$1.50	$1.60	$1.70	$2.25	$2.50	$3.15	$3.85	$4.80

LAWSON GAS WATER HEATER.

STEEL JACKET. Single Coil.

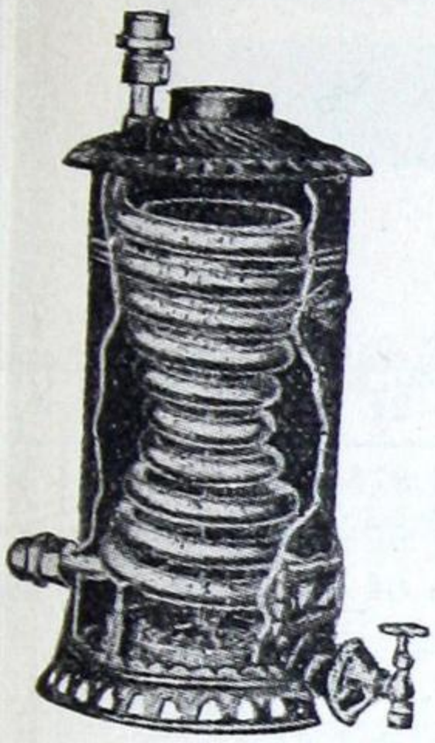


Fig. G1561.

IRON JACKET. Double Coil.

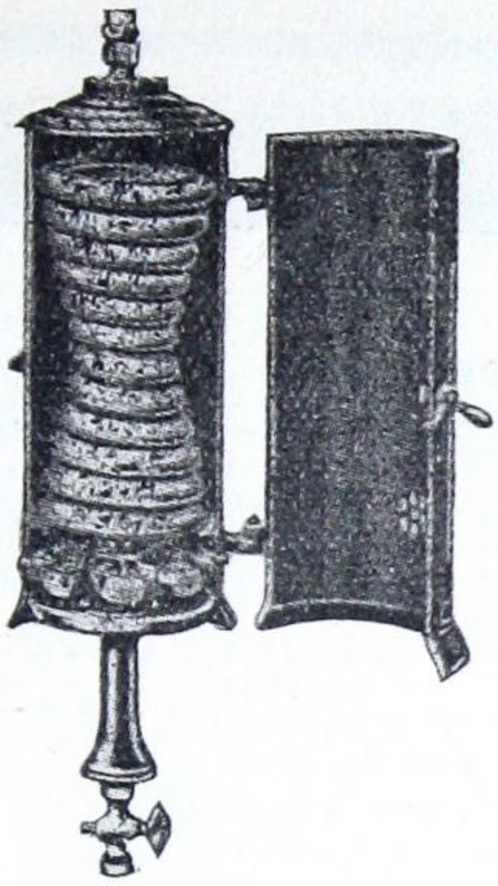


Fig. G1562.

IRON JACKET. Triple Coil.

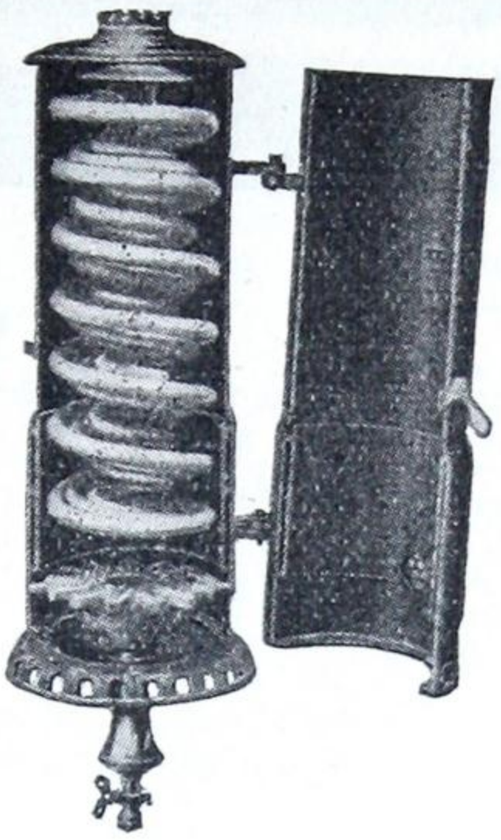


Fig. G1563.

Made with Copper Coils and Brass Ground Joint Unions.

It should be remembered that it is unwise to buy a small heater just because the first cost is less. The difference in cost of a large heater will soon be overbalanced by the cost of operation.

Number.	Size. Height, ins.	Size. Diam., ins.	Suitable for Boiler, gallons	Style Jacket.	Coils.	Price.
						$ c.
0	12½	7½	30	Steel.....	Single.....	11.00
1	15	7½	30	Steel.....	Single.....	12.50
1½	17½	7½	30	Steel.....	Single.....	15.00
2	20	7½	40	Steel.....	Single.....	20.00
3	23	7½	50	Steel.....	Single.....	30.00
20	20	7	30	Iron.....	Double.....	16.00
22	24	7	40	Iron.....	Double.....	20.00
24	28	8½	50	Iron.....	Triple.....	34.00

Closed. **Section.** **Open.**

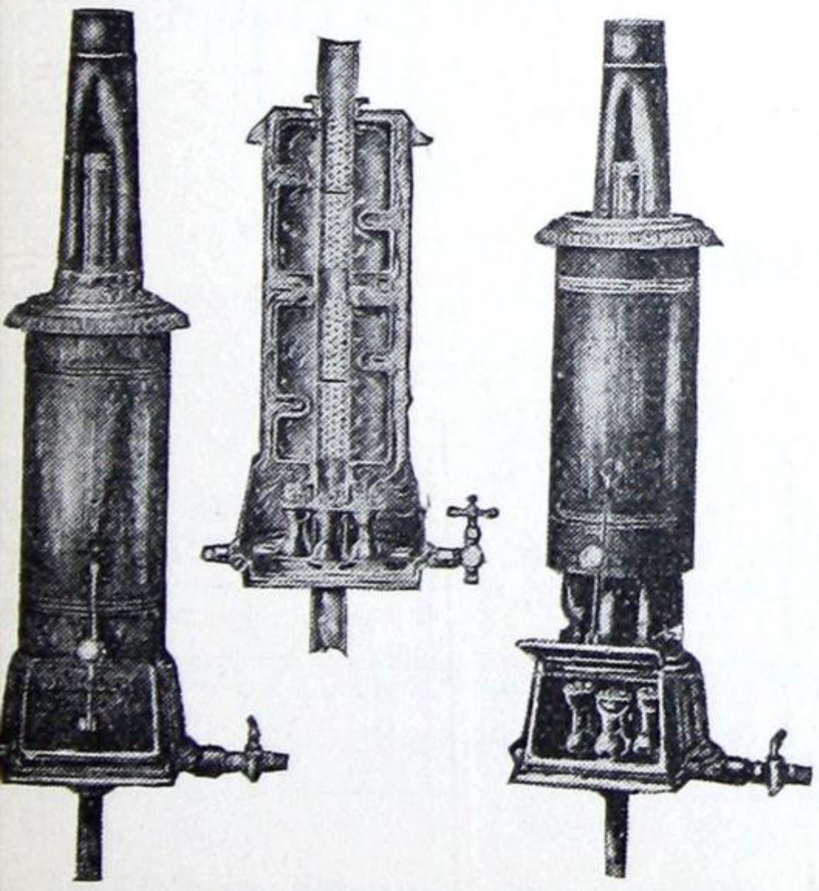


Fig. G1564.

DANGLER GAS WATER HEATER.

Height of Heater, 22½ inches.

Diameter of Heater, 8 inches.

Heater Sections are Iron, Porcelain Lined.

Price.....$24.00

This Heater will heat the water in a 40-gallon Boiler thoroughly in about 20 minutes. Feed water at ordinary summer temperature.

BRASS AND COPPER PIPE.



IRON PIPE SIZES.

Size, Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Outside diameter, inches	.405	.54	.675	.840	1.05	1.315	1.66	1.90	2.375	2.875	3.5	4	4.5
Inside diameter, inches	.281	.375	.494	.625	.822	1.062	1.368	1.6	2.062	2.5	3.062	3.5	4
Weight per ft., pounds, Brass	.25	.43	.62	.9	1.25	1.7	2.5	3	4	5.75	8.3	10.9	12.7
" " " Copper	.26	.45	.65	.95	1.31	1.79	2.63	3.15	4.2	6.04	8.72	11.45	13.33
List of Extras, Brass Pipe	8c.	7c.	2c.	1c.	Base							1c.	2c.

(Weights are only approximate.)

Copper Pipe 4c. advance over Brass Pipe.

SEAMLESS BRASS TUBES.

Stubs' Gauge	Decimals of an Inch	Outside Diameter Inches																						
		⅛	7/16	½	9/16	⅝	¾	⅞	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	5½	6
4 to 11	.238 to .120																			1	1	3	5	6	7
12	.109					6	5	5	5											2	2	4	6	7	8
13 or 9/32"	.095					7	5	5	5				Base							3	3	5	7	8	9
14	.083			7	7	7	5	5	5	1	1	1	1	1	1	1	1	1	1	4	4	6	8	9	10
15	.072		8	7	7	7	5	5	5	1	1	1	1	1	1	1	1	1	1	6	6	7	9	11	14
16 or 1/16"	.065	8	8	7	7	7	5	5	5	2	2	2	2	2	2	2	2	2	5	6	7	11	11	16	19
17	.058	8	8	7	7	7	5	5	5	3	3	3	3	3	3	3	3	5	6	7	8	12	12	17	20
18	.049	9	9	8	8	8	6	6	6	4	4	4	4	4	4	4	6	7	8	9	10	14	14	20	23
19	.042	9	9	8	8	8	6	6	6	5	5	5	5	5	5	7	8	9	10	11	13	17	21	29	31
20	.035	9	9	8	8	8	6	6	6	6	6	6	6	6	7	7	8	9	11	11	13	19	23	31	
21 or 1/32"	.032	11	10	10	8	8	7	7	7	7	7	7	7	7											
22	.028	13	13	11	11	9	8	8	8	8	8	8	8												

BRAZED BRASS TUBING.

Size, Outside Diameter, inches		⅛	3/16	¼	5/16	7/16	⅜	½	5/8	¾	11/16
Birmingham Wire Gauge	21	21	20	20	20	20	18	18	18	18	18
Weight per foot, pounds		.034	.057	.087	.112	.163	.137	.255	.290	.326	.361
List of Extras, Brass Tubing		$1.09	$ .59	$ .27	$ .12	$ .06	$ .06	$ .02	$ .02	$ .01	$ .01

Size, Outside Diameter, inches	¾	⅞	1	1⅛	1¼	1½	1¼	1½	2	2½	3
Birmingham Wire Gauge	18	18	18	18	18	18	20	20	18	18	18
Weight per foot, pounds	.396	.467	.54	.61	.68	.82	.49	.59	1.1	1.39	1.67
List of Extras, Brass Tubing	¾ to 1½ Base						.01	.01	$ .01	$ .05	$ .09

(Weights are only approximate.)

All above Pipes and Tubes can be furnished polished. Polished and Lacquered, or Polished and Nickel-plated. (Prices on application.)

BRASS RODS.

Size, Inches	¼	5/16	⅜	7/16	½	⅝	¾	⅞	1	1¼	1½	1¾	2
Weight per foot, pounds—													
Round	.181	.282	.407	.554	.724	1.132	1.630	2.218	2.897	4.527	6.519	8.87	11.59
Hexagon	.205	.321	.463	.630	.823	1.287	1.853	2.521	3.293	5.146	7.409	10.86	13.18

(Weights are only approximate.)

List of Extras on Brass Rods.

INSERT PAGE 183

BRASS SPELTER SOLDER

NO. 20
COARSE LONG GRAIN



NO. 21
MEDIUM LONG GRAIN



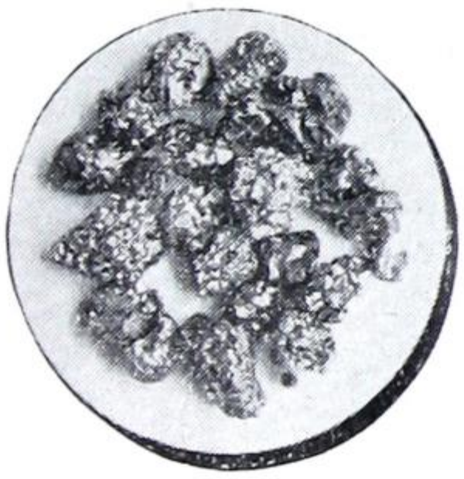
NO. 22
FINE LONG GRAIN



NO. 23
EXTRA FINE LONG GRAIN



NO. 24
COARSE ROUND GRAIN



NO. 25
FINE ROUND GRAIN



NO. 26
EXTRA FINE ROUND GRAIN



Copper	20.0	16.25	13.0	11.15	9.0	7.75	6.25	4.95	3.0	3.50	2.6

GAUGE NUMBER	14	15	16	17	18	19	20	21	22	23	24
Brass	1.9	1.50	1.15	.90	.62	.46	.37	.29	.23	.165	.145
Copper	2.0	1.57	1.21	.95	.65	.49	.39	.31	.24	.175	.153

(Weights are only approximate.)

BRASS STRAINER CLOTH.

In Rolls 1 foot wide x 5 feet long.

0 mesh, per roll——$1.30 50 mesh, per roll..$1.50 60 mesh, per roll, $1.70

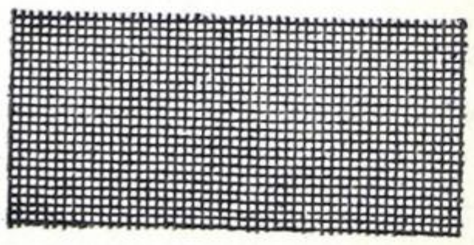


Fig. G1567.

RIVETS, TINNERS'—In Papers per 1000.



Fig. G1568.

Size.	Black.	Tinned.	Size.	Black.	Tinned.
	$ c.	$ c.		$ c.	$ c.
8 ounce	.20	.28	4 pound	.76	1.36
10 "	.22	.31	5 "	.90	1.65
12 "	.24	.35	6 "	1.08	1.98
14 "	.26	.39	7 "	1.26	2.31
1 pound	.27	.42	8 "	1.44	2.64
1¼ "	.29	.48	9 "	1.53	2.88
1½ "	.33	.55	10 "	1.75	3.25
1¾ "	.37	.64	12 "	1.96	3.76
2 "	.42	.72	14 "	2.31	4.41
2½ "	.55	.83	16 "	2.64	5.04
3 "	.60	1.05	18 "	2.99	5.69
3½ "	.70	1.22	20 "	3.35	6.35

Approximate Dimensions of Tinners' Rivets.

Size.	Length.	Diameter Wire Gauge.	Size.	Length.	Diameter Wire Gauge.	Size.	Length.	Diameter Wire Gauge.
8 ounce.	5/32	No. 13¼	2 pound	17/64	No. 9¼	7 pound	13/32	No. 5¼
10 "	11/16	" 13	2½ "	9/32	" 9	8 "	7/16	" 4¾
12 "	3/16	" 12¼	3 "	5/16	" 8¼	9 "	29/64	" 4¼
14 "	3/16	" 12	3½ "	21/64	" 8	10 "	15/32	" 4
1 pound	13/64	" 11¾	4 "	11/32	" 7¼	12 "	1/2	" 3
1¼ "	7/32	" 11	5 "	3/8	" 6¾	14 "	33/64	" 2
1½ "	15/64	" 10¼	6 "	25/64	" 6	16 "	17/32	" 1
1¾ "	1/4	" 10						

TINNED CLOUT NAILS—In One Pound Papers.



Fig. G1569.

Size, Length, inches	5/8	3/4	7/8	1	1⅛	1¼
Price per lb	$ .34	$ .26	$ .24	$ .23	$ .23	$ .23

GAS BRACKETS.

ROPE TUBE.

Stiff.

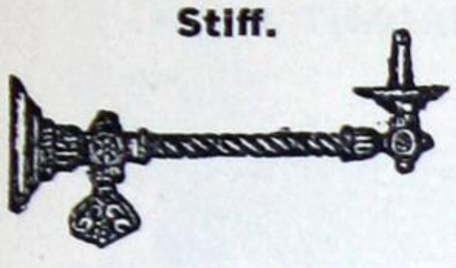


Fig. G1601.

1 Joint.

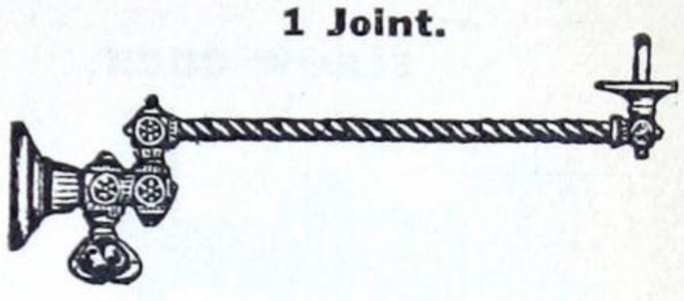


Fig. G1602.

2 Joint.

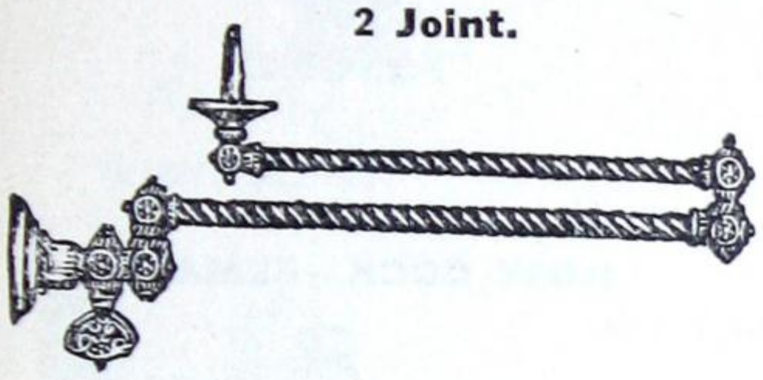


Fig. G1603.

3 Joint.

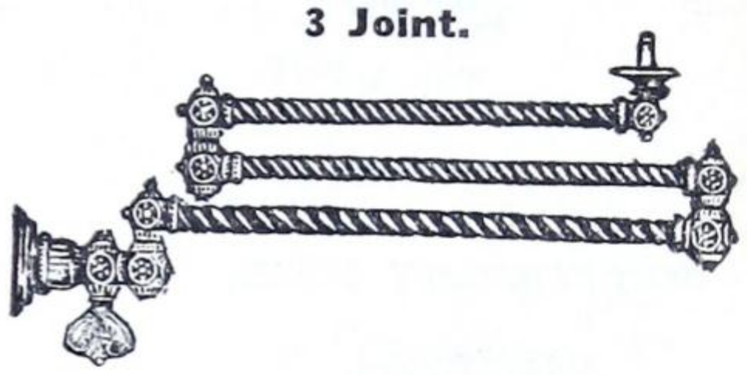


Fig. G1604.

SQUARE TUBE.

Stiff.

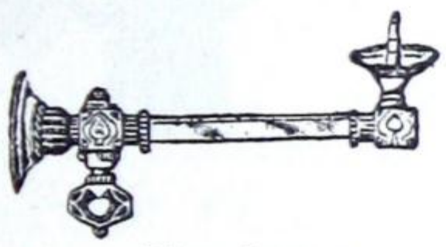


Fig. G1606.

1 Joint.

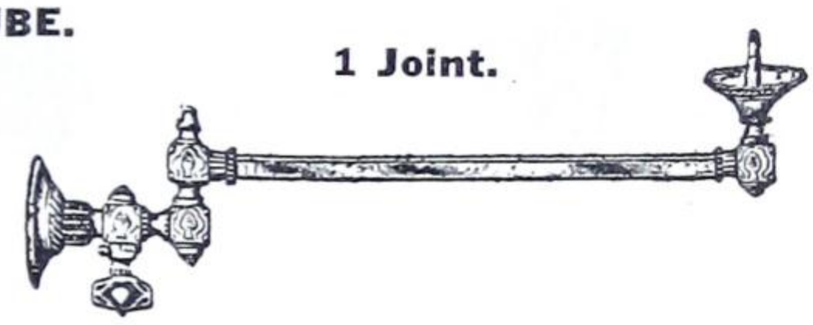


Fig. G1607.

2 Joint.

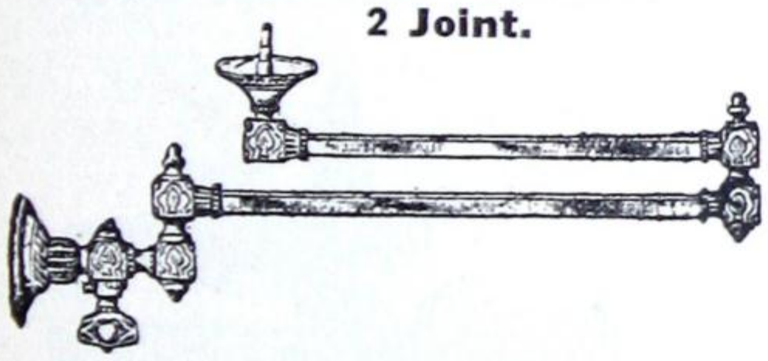


Fig. G1608.

3 Joint.

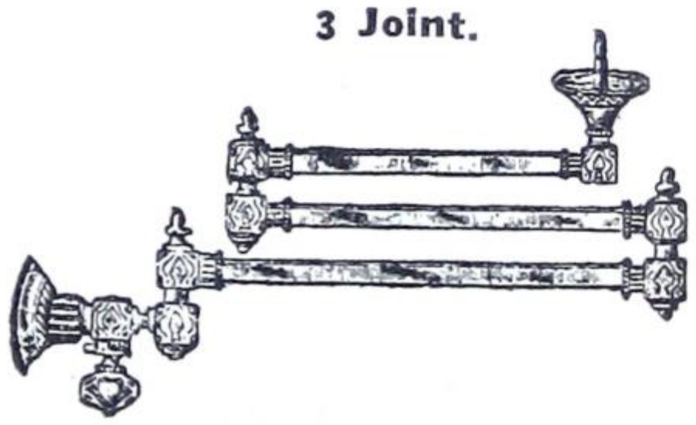


Fig. G1609.

DIAMOND TUBE, with Scroll

1 Joint.

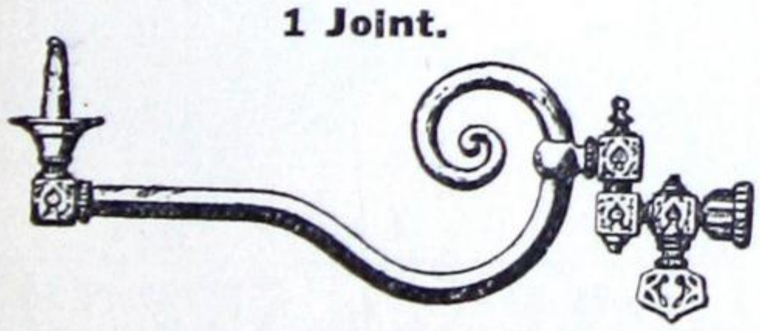


Fig. G1611.

2 Joint.

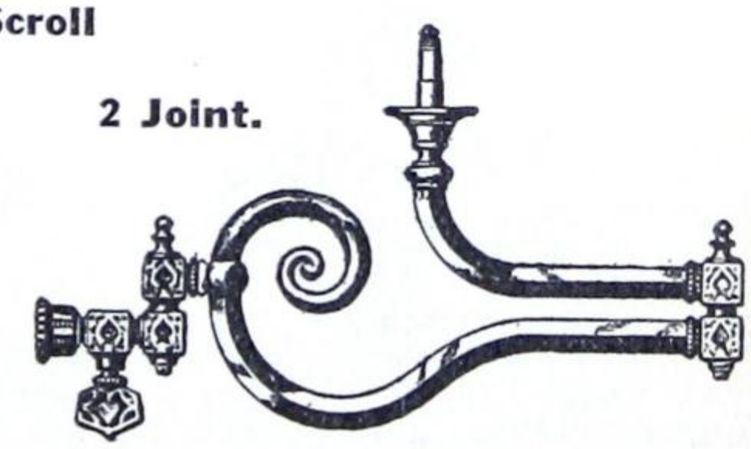


Fig. G1612.

		Stiff.	1 Joint.	2 Joint.	3 Joint.
Rope Tube	Each.	$ .55	$1.00	$1.60	$2.25
Square Tube	"	1.15	1.65	2.40	3.50
Diamond Tube	"	2.00	3.00	4.00	....

GAS FIXTURE FITTINGS.

ELBOW COCK.



Fig. G1621.

STRAIGHT COCK.

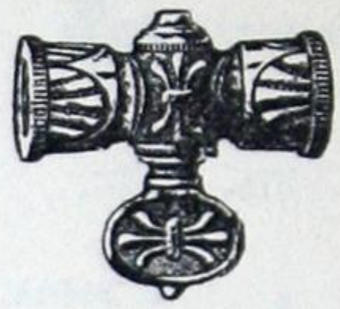


Fig. G1622.

INDEPENDENT COCK.



Fig. G1623.

PILLAR COCK.



Fig. G1624.

HOSE COCK—FEMALE.



Fig. G1625.

BRACKET SWING COCK.



Fig. G1626.

UNIVERSAL BRACKET COCK.

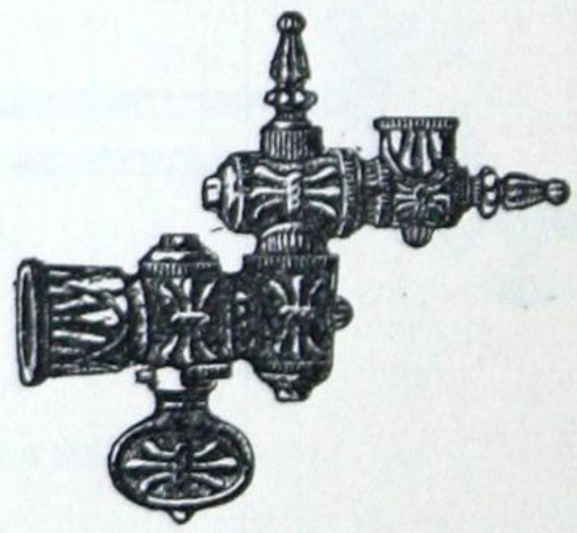


Fig. G1627.

Size Iron Pipe, Inches.....		⅛	¼ x ⅛	¼	⅜ x ¼	⅜	½
Elbow Cocks.....	per doz.	$4.25	....	$4.55	....	$5.20	$6.20
Straight Cocks.....	"	3.90	$4.25	4.55	$4.55	4.90	6.20
Independent Cocks.....	"	6.00	....	6.00	....	6.50	8.00
Pillar Cocks.....	"	3.90	....	4.25	....	4.55	5.20
Hose Cocks { Female.....	"	4.25	....	4.55	....	4.90	5.25
Hose Cocks { Male.....	"	4.55	....	4.90	....	5.20	5.60
Bracket Swing Cocks.....	"	....	....	....	8.45	9.10	....
Universal Bracket Cocks.....	"	....	....	....	12.35	13.00	....

GAS FIXTURE FITTINGS.

UNIVERSAL SWING.

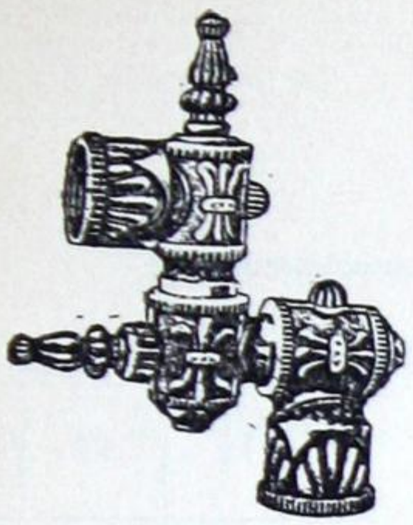


Fig. G1631.

MIDDLE SWING.



Fig. G1632.

TOP SWING.

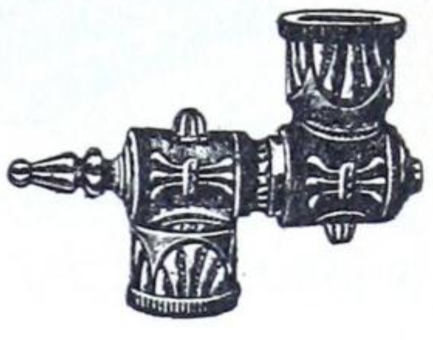


Fig. G1633.

WING JOINT.



Fig. G1634.

NOZZLES.

Straight.



Fig. G1635.

Side.



Fig. G1636.

STREET LAMP COCK.



Fig. G1640.

Size Iron Pipe, Inch.....		$\frac{1}{8}$	$\frac{1}{4}$ x $\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$ x $\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Universal Swing.....	per doz.	....	....	$8.45	$8.80	$9.10	....
Middle Swing.....	"	$4.25	$4.55	4.90	....	....	....
Top Swing.....	"	....	....	....	5.55	6.20	....
Wing Joint.....	"	....	5.50	6.00	6.50	7.00	....
Straight Nozzle.....	"	1.00	....	1.65	....	1.95	....
Side Nozzle.....	"	1.00	....	1.65	....	2.30	....
Street Lamp Cocks.....	"	....	....	6.50	....	6.50	$7.15

Iron Pipe—The Handle.

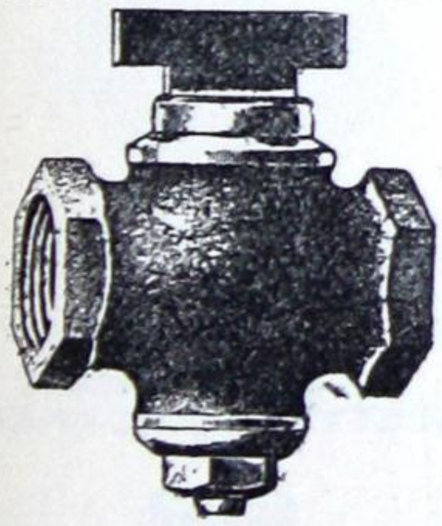


Fig. G1641.

SERVICE COCKS.

Union Meter Cocks L.H.

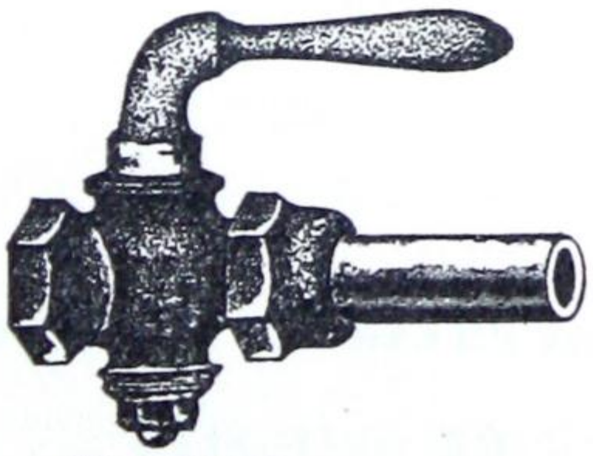


Fig. G1642.

Union Meter Cocks L.H. with Lock Wing.

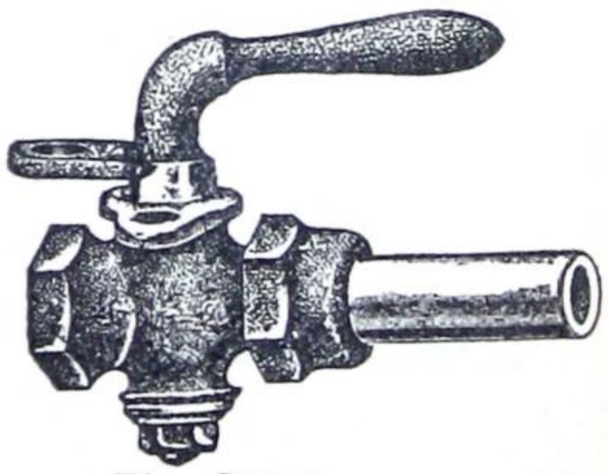


Fig. G1643.

SIZE IRON PIPE. Inches.....		$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Service Cocks. IP., T. H.	Without Check.....Each	$ .90	$1.00	$1.10	$1.30	$2.10	$3.25	$4.60	$ 8.00
" " " "	with Check..... "	1.00	1.15	1.30	1.55	2.40	3.70	5.10	8.75
Union Meter Cocks L. H.	without Check..... "	.....	1.85	2.00	2.35	3.45	5.40	7.70	12.60
" " " "	with Check..... "	.....	2.00	2.20	2.60	3.75	5.85	8.20	13.35
" " " "	with Lock Wing..... "	.....	2.15	2.30	2.65	3.85	6.00	8.45	13.60

GAS COUPLINGS FOR LEAD PIPE.

GROUND FACE.



Fig. G1651.

Size, Inches.....	¼	⅜	½	⅝	¾	1	1¼	1½	2
Gas Couplings for Lead Pipe. per doz.	$6.00	$6.60	$7.80	$9.00	$10.80	$14.40	$18.00	$25.20	$36.00

BOX PLATE.

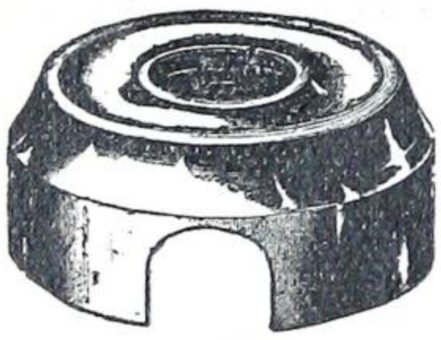


Fig. G1652.

3″ Dia..... $3.00

BRACKET BACK.



Fig. G1653.

Size, Dia. Ins.. 2½ 3 4
Per Gross..... $4.50 $6.00 $13.50

BURNER CUP.



Fig. G1654.

Per Gross..... $3.00

GLOBE HOLDERS.



Fig. G1655.

Size, Inches 4 5
Per doz.... $1.00 1.65

BRASS PILLAR.



Fig. G1656.

Per Gross.... $1.80

LAVA TIP.



Fig. G1657.

Per Gross.... $1.30

LITTLE WONDER ACETYLENE BURNER



Fig. G1658.

Per doz.....$5.50

TAPER SLIDE and KEY.

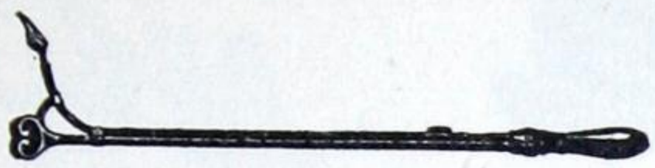


Fig. G1661.

Per dozen..... $3.50

WAX TAPERS.



Fig. G1662.

Per dozen Boxes..... $2.00

MOHAIR GAS TUBING.



Fig. G1663.

Lengths of 6, 8, 10 and 12 feet.
Per foot.....0.25

MONITOR BURNER.



Fig. G1634.

Dia. of Top, Ins.	2	3	4
Price, each.....$	.80	$1.20	$1.75

MONITOR BURNER STAND.



Fig. G1665.

Diameter, Inches	3	4½
Price, each.....$	.50	$1.50

GAS PLATE.



Fig. G1666.

Per doz..... $5.00

GAS KEYS.

Short.



Fig. G1667.

Per dozen..... $6.00

Long.

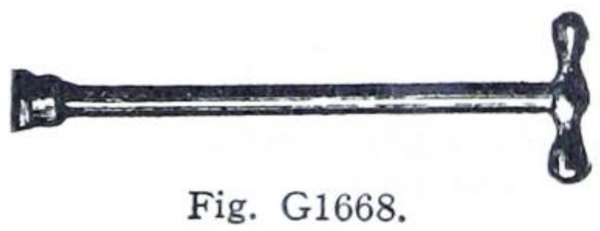


Fig. G1668.

Made to order.

EXTENSION PIECE.



Fig. G1669.

Made to order.

HOSE.



Fig. G1701.

WATER HOSE.

Size, Inches.....	½	¾	1	1¼	1½	2	2½	3
2 ply.....per foot	$ .20	$ .25	$ .33	$ .42	$ .50	$ .66	$ .83	$ .99
3 " ..... "	.25	.30	.40	.50	.60	.80	1.00	1.20
4 " ..... "	.30	.37	.50	.62	.75	1.00	1.25	1.50

COTTON RUBBER LINED MILL HOSE.

Size, Inches.....	1	1¼	1½	2	2½
Price per foot.....	$.40	$.45	$.50	$.65	$.80

UNLINED LINEN HOSE.

Size, Inches.....	1	1¼	1½	2	2½
Price per foot.....	$.20	$.24	$.30	$.36	$.45

AGRICULTURAL SUCTION HOSE.

Size, Inches.....	1	1¼	1½	2	2½
Price per foot.....	$ .75	$ .93	$1.13	$1.50	$1.88

STEAM HOSE.

Size, Inches.....	½	¾	1	1¼	1½	2	2½	3
3 ply.....per foot	$ .47	$ .57	$ .70	$ .85	$1.02	$1.34	$1.66	$2.00
4 " ..... "	.56	.71	.87	1.04	1.25	1.66	2.08	2.80
5 " ..... "	.70	.87	1.07	1.30	1.56	2.07	2.60	3.50
6 " ..... "	.84	1.05	1.28	1.56	1.87	2.49	3.12	4.20

HOSE GOODS.

HOSE COUPLING. For Water.



Fig. G1706.

HOSE COUPLING. For Steam.



Fig. G1707.

HOSE MENDER.



Fig. G1708.

HOSE NIPPLE. Male.



Fig. G1711.

HOSE NIPPLE. Female.



Fig. G1712.

HOSE BIBB END.



Fig. G1714.

HOSE CAP.



Fig. G1715.

PRICES ON OPPOSITE PAGE.

HUDSON HOSE BANDS.

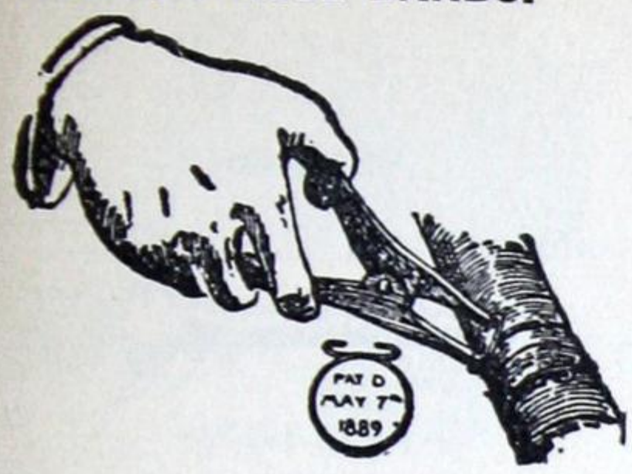


Fig. G1716.

Size	½	¾	1
Bands, per dozen	.25	.30	.60
Plyers, per doz. Pairs			$5.00

CALDWELL HOSE STRAP.



Fig. G1717.

Size	½	¾	1
Per dozen	$1.20	1.20	2.00

CALDWELL HOSE PLYERS.

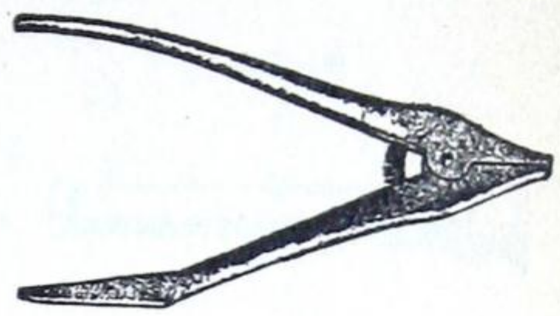


Fig. G1718.

Per dozen..... $6.00

SHERMAN HOSE CLAMP.

Brass.

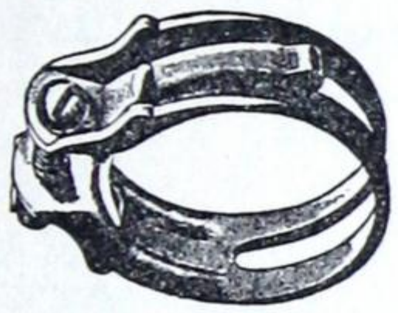


Fig. G1721.

Size, Inch	Number Ply. 2	3	4	5	6	Price per Doz.
	Diameter when open, Inches					
Water ½	⅞	15/16	1 1/32	.....	.....	$.60
¾	1 3/32	1 3/16	1 1/4	.....	.....	.60
1	1 11/32	1 7/16	1 17/32	.....	.....	2.00
1¼	.....	1 21/32	1 13/16	.....	.....	2.50
1½	.....	1 15/16	2 1/16	.....	.....	3.00
2	.....	2 9/16	2 9/16	.....	.....	4.00
2½	.....	3 1/16	3 1/16	.....	.....	7.00
3	.....	3 15/16	3 15/16	.....	.....	10.00
Steam ¾	.....	1 7/16	1 17/32	.....	.....	2.00
1	.....	1 5/8	1 21/32	.....	.....	2.50
1¼	.....	1 15/16	1 31/32	.....	.....	3.00
1½	.....	2 7/32	2 7/32	.....	.....	3.50
1½	.....	.....	.....	2 13/32	.....	4.00
2	.....	2 11/16	2 11/16	.....	.....	5.50
2	.....	.....	.....	2 11/16	.....	6.50
2½	.....	3¼	3¼	.....	.....	8.50
2½	.....	.....	.....	3 9/16	.....	9.50

CLANCY HOSE CLAMP.

Galvanized.

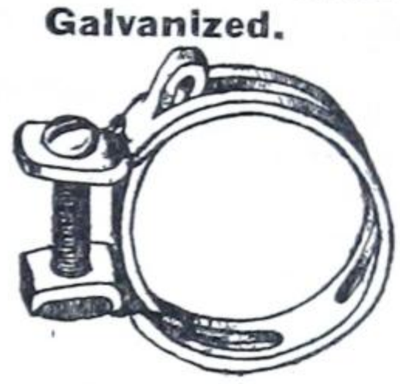


Fig. G1722.

Size, Inch	Number Ply. 2	3	4	5	6	Price per Doz.
	Diameter when open, Inches					
Water ½	¾	⅞	1 15/16	1	.....	$1.00
¾	1 1/16	1 1/8	1 3/16	1¼	.....	1.00
1	1 5/16	1 3/8	1 7/16	1½	.....	1.50
1¼	1 5/8	1 11/16	1 13/16	1 7/8	.....	2.50
1½	.....	2	2 1/8	2 3/16	.....	3.00
2	.....	2 7/16	2 9/16	2 11/16	.....	4.00
2½	.....	2 15/16	3	3 1/8	.....	7.00
3	.....	3 7/16	3½	3 5/8	.....	10.00
Steam ½	.....	1	1 1/16	1 3/16	1¼	1.00
¾	.....	1 5/16	1 3/8	1 7/16	.....	1.50
¾	.....	.....	.....	.....	1½	2.00
1	.....	1 5/8	1 11/16	1¾	1 13/16	2.50
1¼	.....	1 7/8	1 15/16	2	2 1/16	3.00
1½	.....	.....	2¼	2 5/16	2⅜	3.50
2	.....	.....	2 5/8	2¾	2⅞	5.50

For Unlined Linen Hose.

Size, Inches	1¼	1½	2	2½
Price per dozen	$2.00	$2.50	$3.50	$5.50

HOSE COUPLINGS, etc. (Illustrated on opposite page.)

Size, Inches	⅝	⅝	¾	1	1¼	1½	2	2½	3
Hose Couplings, Fig. G1706...Doz.	$ 2.40	.....	$ 2.40	$ 4.40	$10.00	$14.00	$24.00	$48.00	$75.00
" " " G1707... "	15.00	.....	15.00	18.00	24.00	30.00	42.00	72.00	.....
" Menders, Brass..... "	1.20	.....	1.20	2.00	.....	.....	.....	.....	.....
" " Galvanized Iron "	.40	.....	.50	.85	.....	.....	.....	.....	.....
" Nipples, Male..... "	3.50	.....	3.50	5.00	9.00	10.00	14.00	28.00	40.00
" " Female..... "	3.50	.....	3.50	5.00	9.00	10.00	14.00	28.00	40.00
" Bibb Ends..... "	3.00	$ 3.60	4.20	6.00	9.00	12.00	18.00	.....	.....
" Caps..... "	3.60	.....	4.00	6.00	8.00	10.00	15.00	24.00	31.00

HOSE NOZZLES.

Plain.



Fig. G1726.

With Screw Tip.



Fig. G1727.

With Cock.



Fig. G1728.

Size, Inches	¾	1	1¼	1½	2	2½	2½
Length, Inches	6	8	12	12	12	12	15
Hose Nozzles, Plain.....per doz.	$7.00	$9.00	$18.00	$22.00	$34.00	$55.00	$65.00

Length, Inches	7½	8½	12	13	12	....	15
Hose Nozzles, with Screw Tip, per doz.	$8.00	$10.00	$20.00	$25.00	$38.00	....	$75.00

Length, Inches	8	8	12	12	12	12	15
Hose Nozzles, with Cock...per doz.	$13.00	$15.00	$40.00	$55.00	$80.00	$145.00	$155.00

Note.—½″ is same size and price as ¾″.

GEM SPRAY NOZZLE.



Fig. G1731.

Size.....	¾″	1″
Per dozen.....	$6.00	$12.00

SHERMAN SPRAY NOZZLE.

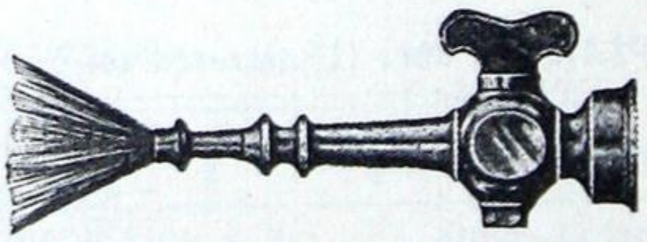


Fig. G1732.

Size.....	¾″
Per dozen.....	$12.00

HOSE SPRINKLER.



Fig. G1733.

Size, Dia.....	2″	3″
Tapped I.P.....	⅜	¾
Per dozen.....	$4.50	$12.00

SWINGING HOSE RACKS.

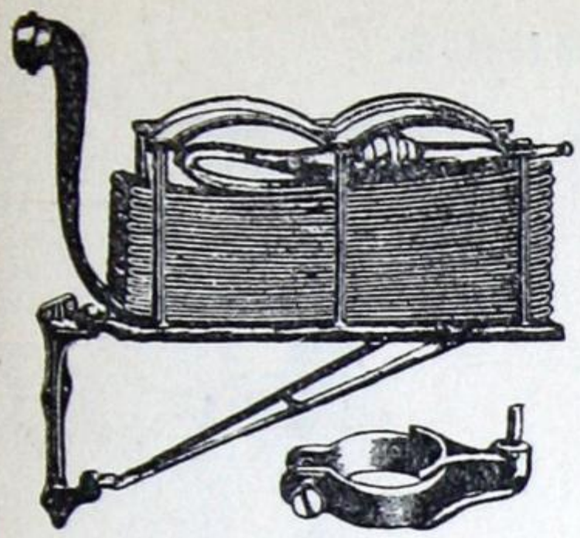


Fig. G1735.

Please note when ordering with Pipe Clamp to give size of Standpipe.

Number of Rack.....	0	00	1	2
Length of Rack, Inches.....	18	18	24	24
Width " "	5	6⅜	6	7
Depth " "	8	8	10	10
Capacity Size Unlined Hose..	1½" or 2"	2½"	1½" or 2"	2½"
Capacity Number, Feet.....	50	50	100	100
Price with Wall Bracket. Each.	$2.05	2.05	2.55	2.55
" " Pipe Clamps. "	2.25	2.25	2.75	2.75

HOSE REELS.

WOLVERINE.

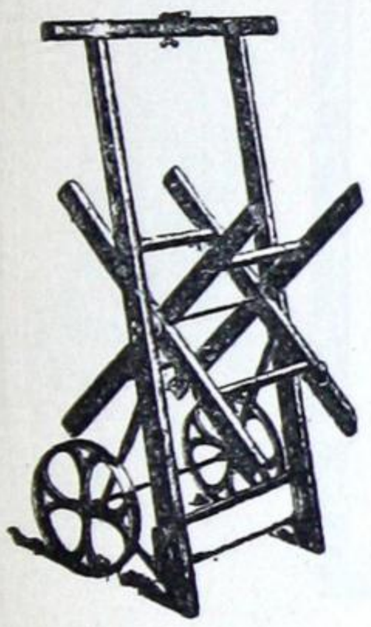


Fig. G1736.
Capacity 250 ft. ¾" Hose.
Price each.....$4.00

Fig. G1737.
Capacity 150 ft. ¾" Hose.
Price each.....$5.25

COLUMBIA.



LAWN SPRINKLERS.

AUSTRALIAN "A" 5 Ins. High.



Fig. G1741
Each $1.50

COLUMBIA 12 Ins. High.

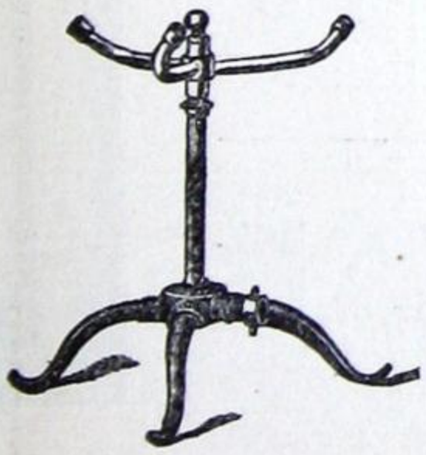


Fig. G1743.
Each $2.70

TEXAS. 21½ Ins. High

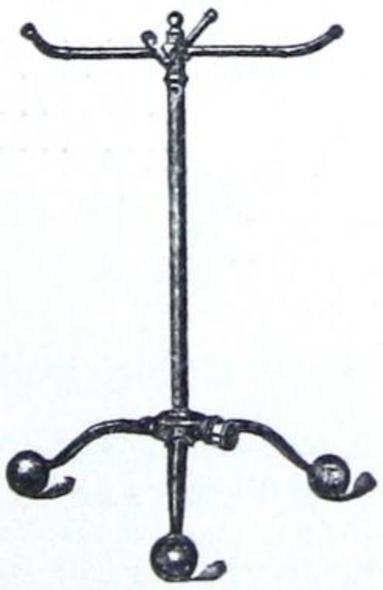


Fig. G1744.
Each $3.30

ZENITH. 5 Ins. High.



Fig. G1742.
Each $2.00

ANACONDA 11 Ins. High.



Fig. G1745.
Each $2.30

COMPRESSION HYDRANT MOUNTINGS.

McNAMARA. Two Pipe. **FITTINGS COMPLETE—LESS PIPE.** **IMPROVED Two Pipe.**



Each $5.00.

Fig. G1746.



Each $5.00.

Fig. G1747.

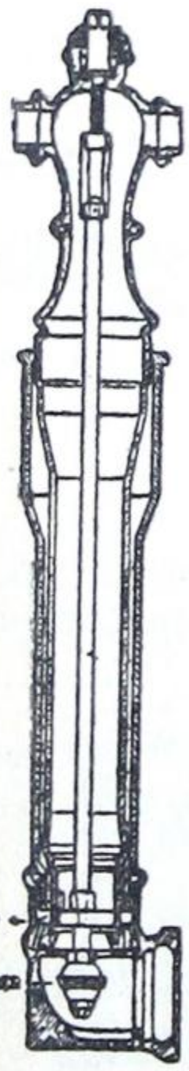


Fig. 1748.
(Sectional)

THE MATHEWS PATTERN HYDRANT.

Fitted with Frost Proof Casing.

Diameter of Inlet Valve, Inches	4½	5	6
Size of Bell or Flange Connection on Inlet, Inches	3 to 4	4 to 6	4 to 6
Inside Diameter of Standpipe, Inches	4¾	5¼	6¼
Standard Length of Pavement to Bottom of Pipe, Feet	5	5	5
Price with one 2½″ Hose Nozzle	56.00	63.00	72.00
" " two " " "	60.00	67.00	76.00
" " three " " "	64.00	71.00	80.00
Add or deduct for each 6 Inch Difference from length of Standpipe and Casing	1.80	2.10	2.70

Can be furnished with Steamer Connections 3, 3½, 4, 4½ or 5″ $2.00 per Inch.

Always be careful when ordering to give outside Diameter of Male Hose Thread and Number of Threads per Inch.



Fig. G1748.

EXTENSION VALVE BOXES.

VALVE BOX.



Fig. G1749.a

EXTENSION SECTION.



Fig. G1749.b

DOME BASE.



Fig. G1750.a

OVAL BASE.



Fig. G1750.b

EXTENSION VALVE BOXES.

5¼ Inches Inside Diameter with No. 6 Round Base, Fig. G1749.a.

NUMBER.....	A.A.A	A.A.	A.	B.	C.	C.C.	D.	D.D.	E.	F.	G.	H.
Extends From.....	17	22	28	36	42	48	42	48	60	60	72	72
Inches To.....	17	28	40	48	54	60	65	72	72	84	84	96
Price, Each.....	$4.90	$5.70	$6.00	$6.30	$6.60	$7.00	$7.30	$7.70	$7.90	$8.20	$8.60	$9.00

Note.—When ordering please state style of cover required.

DESCRIPTION OF VALVE BASES.

No. of Base.	Style.	Inside at Bottom, Inches.	Height, Inches.	For Valves—Inches.	Length of Box—Inches.		Cost of Box.	
					Increases.	Decreases	Increases.	Decreases
4	Round	10⅞	8	4 and smaller.....	.....	3	.....	.50
6	"	15	11	8 and smaller. Round Top.....	.....	.....	.....	.....
8	"	17¼	11	10 and smaller. Round Top.....	.....	.....	.50	.....
16	"	24	15¼	12 or 16. Round Top..	4⅜	.....	2.50	.....
*140	Dome	.....	10½	24 and smaller. Round or Oval Top.....	.....	6	.....	.....
160	Oval	21 x 12½	9½	16 and smaller.....	.....	1½	.70	.....
162	"	26 x 16	10½	20 and smaller.....	.....	1	2.50	.....

*This Base has a flange 17″ x 17″ on the Bottom, and is especially adapted for use where valves are set near the surface.

Valve Box Extension Section, Fig. G1749.b will Increase Length of Box 14″.....each $1.60

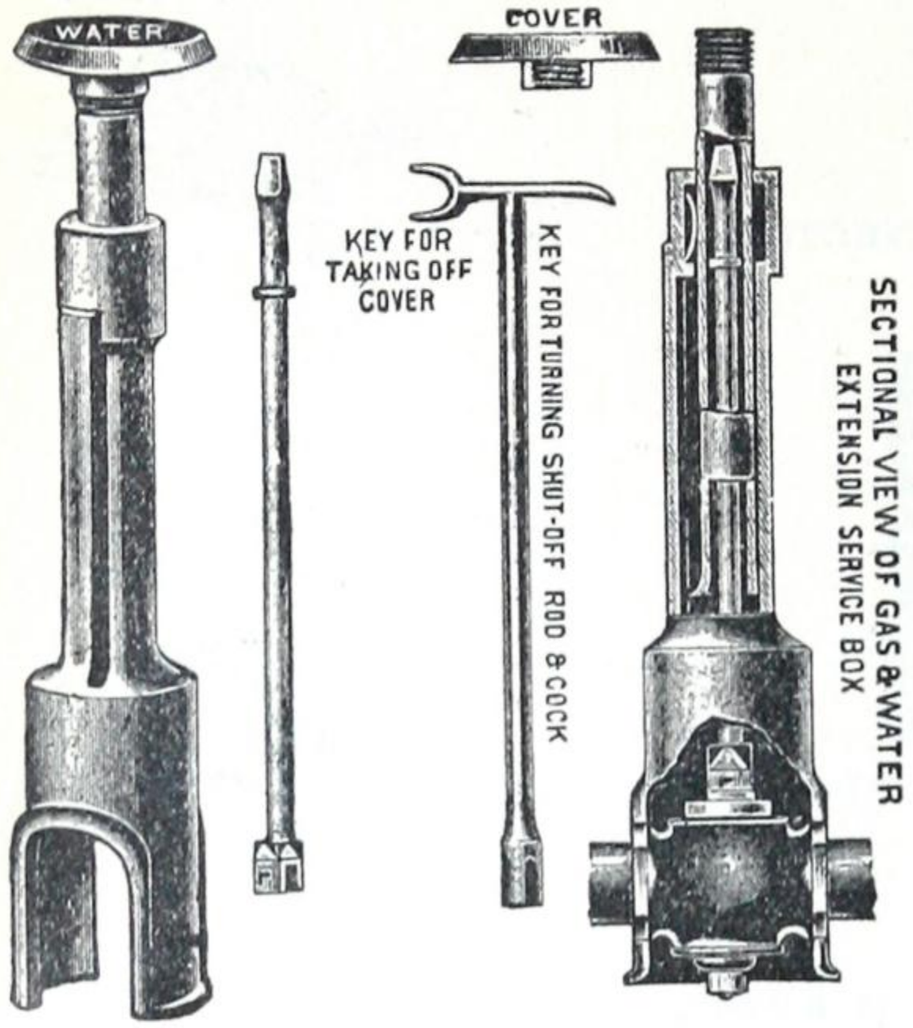


Fig. G1751.

ECLIPSE PATTERN SERVICE BOXES.

The Base is Cast Iron.

Upper portion 1″ Wrought Iron Pipe, forged at lower end to fit slot in base, and flat Brass Spring holds pipe in position.

Cover is Cast Iron with threaded Brass Bushing inserted.

Rod is Wrought Iron and forged at lower end to fit Stop Cock and at upper end for Key.

No.	Extension	Price Complete—Less Key
	Feet	Each
1	1½ to 2	$1.00
2	2 to 3	1.05
3	2½ to 3½	1.10
4	3 to 4	1.15
5	3½ to 4½	1.20
6	4 to 5	1.25
7	4½ to 5½	1.30
8	5 to 6	1.35
9	5½ to 6½	1.40
10	6 to 7	1.45
11	6½ to 7½	1.50

Keys net extra according to requirements.

STANDARD SERVICE BOXES FOR GAS AND WATER.

No.....	0	1	2	3	4	5	7	8
Length.....	10″	13″	2″	2′8″	2′10″	3′6″	4′	6′
Extends to....	.....	21½″	3′3″	4′	4′10″	5′6″	6′	8′
Price each.....	$0.70	1.10	1.20	1.30	1.50	1.62	1.75	2.00

Extension Pieces furnished for Increasing Length of Boxes 9 in., 16½ in. and 28 inches. Price on application.

Unless otherwise ordered, Service Boxes will be furnished for water.

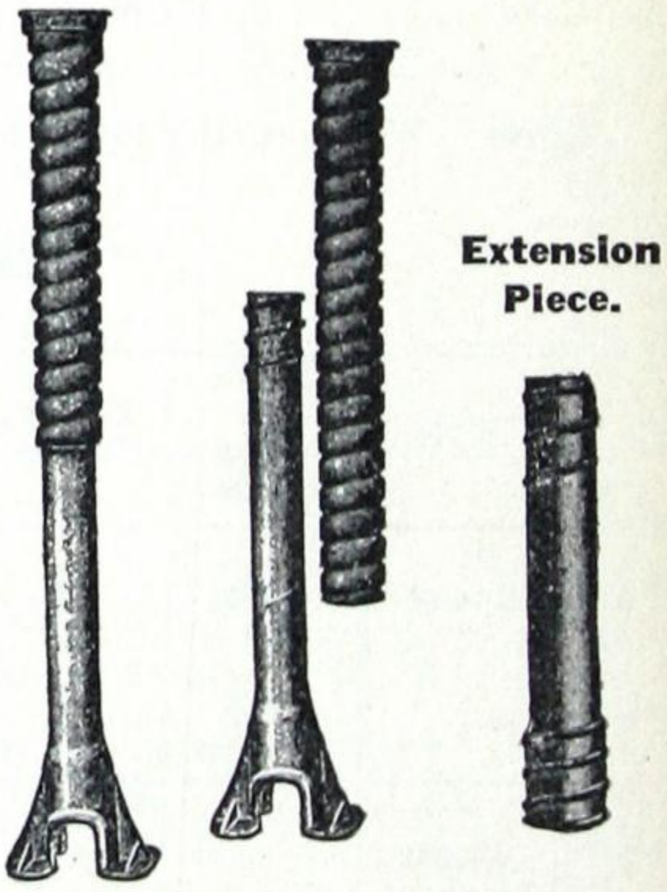


Fig. G1752.

Fig. G1753.

PEERLESS PATTERN.

SERVICE BOXES.

With this style of Box the Cock Handle can always be located upon first effort. The Box can be raised and lowered without digging. If necessary, an extension piece can be added to a Box already in the ground without digging up.

The Hinged Top makes a good covering when Box is laid in asphalt or cement.

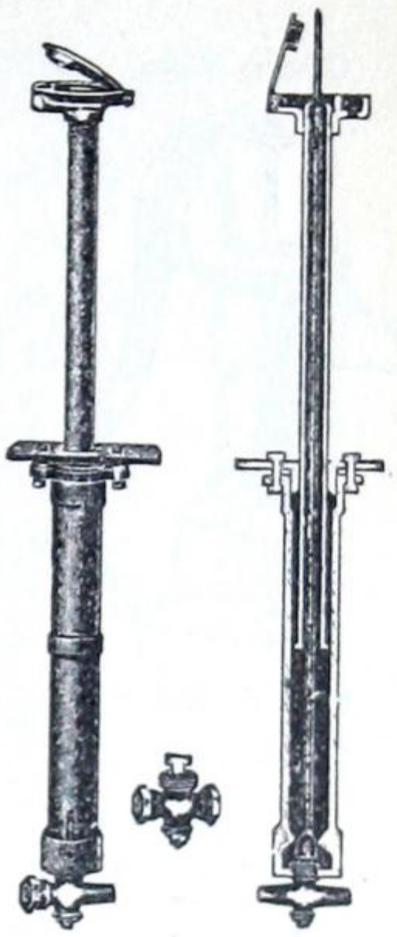


Fig. G1754.

Number.	Black Pipe.	Extension.	Weight.
		Feet.	lbs.
1	$1.50	2 to 4	20½
1½	1.58	2½ to 4½	22
2	1.67	3 to 5	23
3	1.75	3½ to 5½	24
4	1.84	4 to 6	25½
5	2.01	5 to 7	27½
6	2.18	6 to 8	29½
7	2.35	7 to 9	31½

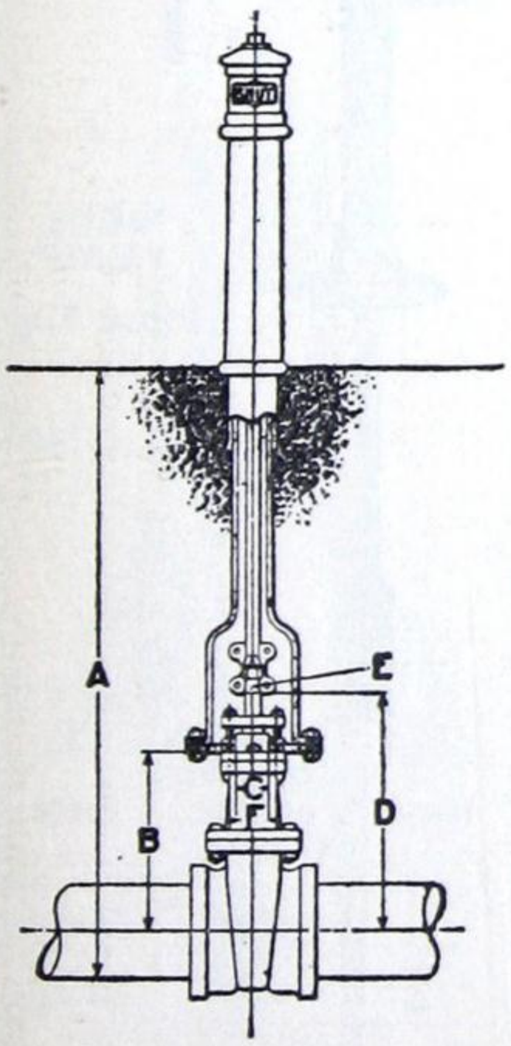


Fig. G1755.

INDICATOR POSTS.

Suitable for operating valves 2″ to 14″.

Price for 2 to 6 foot bury, including wrench, each $40.00.

Figure shows post as attached to Hub End Gate Valve.

When Indicator Posts are ordered without valves, state name of maker of valve, size and style of end connections; also

A—Depth of trench, or bury of post.

B—Center of pipe to top of stuffing box flange.

C—Diameter of stuffing box.

D—Center of Valve or pipe, to bottom of square on Valve stem.

E—Size and length of the square part of Valve stem.

F—Bolt circle, size and number of studs or bolts in stuffing box.

Give number of turns to open Valve, and whether to the right or left.

PITCHER PUMPS.

Close Top.

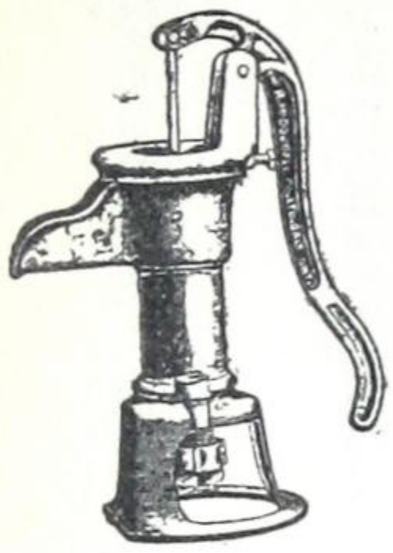


Fig. G1801.

Close Spout.



Fig. G1802.

Extra Long Cylinder.

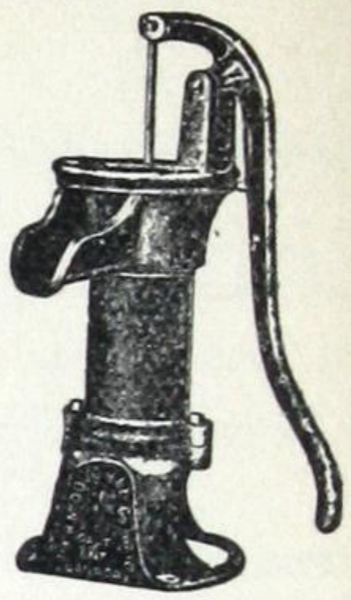


Fig. G1803.

No.	Dia. of Cylinder, Inches.	Fitted for Iron Pipe.	PRICE					
			Close Top.		Close Spout		Extra Long Cylinder.	
			Iron	Brass Lined	Iron	Brass Lined	Iron	Brass Lined
1	2½	1″	$ 4.25	$ 6.50	$ 4.25	$ 6.50	....	....
2	3	1 or 1¼	4.75	7.25	4.75	7.25	$ 4.75	$ 7.25
3	3½	1¼ or 1½	5.25	8.00	5.25	8.00	5.25	8.00
4	4	1¼ or 1½	6.25	9.00	6.25	9.00	6.25	9.00
5	4½	1½ to 2	9.50	12.50	9.50	12.50	9.50	12.00

CISTERN PUMP.

Close Top.



Fig. G1804.

COTTAGE PUMPS.

Nickel-Plated Brass Cylinder.

Pitcher.



Fig. G1806.

Force.



Fig. G1807.

3″ Cylinders.
Tapped 1″ Iron Pipe.

Price, $4.00 Price, $5.50

CISTERN PUMP—Close Top.

No.	Dia. of Cylinder, Inches.	PRICE	
		Iron.	Brass Lined Cylinder.
1	2¼	$ 4.50	$ 6.50
2	2½	5.00	7.00
3	2¾	5.75	8.00
4	3	6.25	8.75
5	3¼	6.75	9.75
6	3½	8.00	11.50
7	4	10.00	15.00



WELL PUMP.

Close Top.

Fig. G1808.

No.	Dia. of Cylinder, Inches.	Price.
1	2½	$8.25
2	3	9.25
3	3½	10.25

If with open top, deduct 50c. from List.

FORCE PUMPS—With Air Chamber and Cock.

ON BASE.

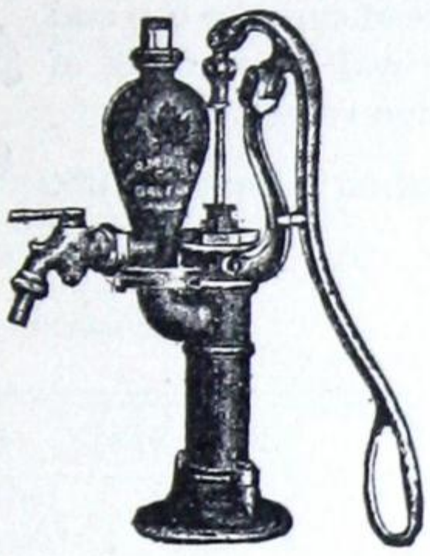


Fig. G1811.

ON PLANK.

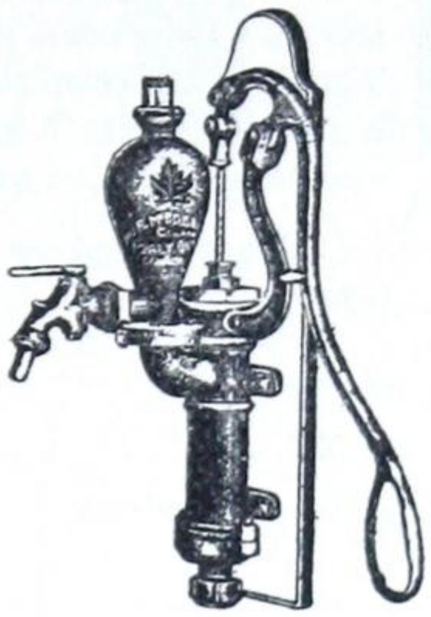


Fig. G1812.

No.	Dia. of Cylinder, Inches	Fitted for Iron Pipe.	Fig. G1811 on Base.		Fig. G1812 on Plank.	
			Price, Iron.	Price, Brass Cylinders.	Price, Iron.	Price, Brass Cylinders.
1	2½	1 and 1¼	$12.50	$17.50	$12.50	$17.50
2	3	1¼ and 1½	14.50	19.50	14.50	19.50

HOUSE FORCE PUMP
On Plank.

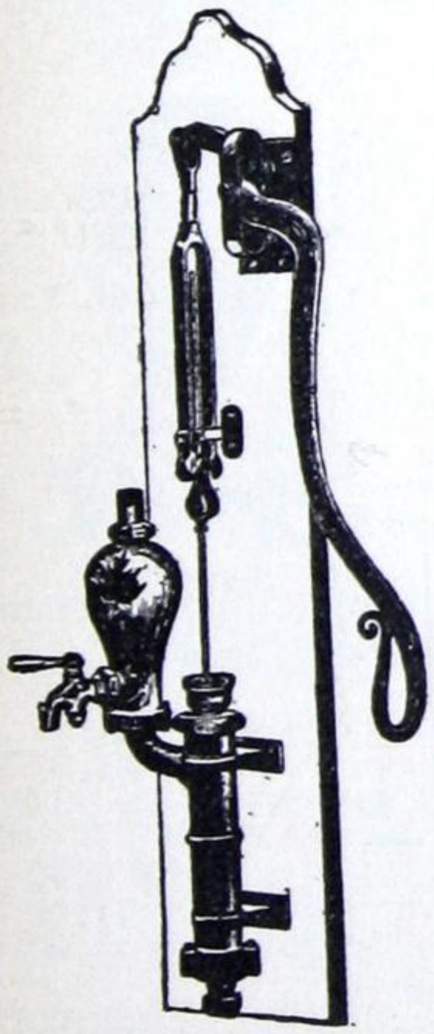


Fig. G1813.

No.	1	2
Dia. of Cylinder, Inches	2½	3
Fitted for Iron Pipe	1¼	1¼ or 1½
Price, Iron	$19.50	$21.00
" Brass Cylinder	25.50	27.50
" All Brass	36.00	41.00

REDWING PUMP.



Fig. G1816.

The Pump is operated by means of a lever, which may be worked from either a vertical or horizontal position. A brass double wing oscillating piston, with a brass valve on each side of wing, fits snugly in the cylinder. The shaft or piston rod passes through the hub in centre of cylinder cap and is provided with a suitable stuffing box. The water-way of each set of valves is separated from the other by means of the suction valve box.

These Pumps, having no leather packing, are well suited to pumping hot liquids.

IDEAL.
With Air Chamber and Cock

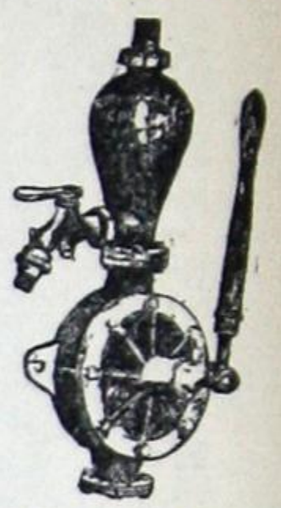


Fig. G1817.

PRICE.

Fig. G1816. **Redwing.**			Fig. G1816. **Ideal.**				Fig. G1817. **Ideal.**			
No.	Fitted for Iron Pipe.	Iron Case, Brass Valve	No.	Fitted for Iron Pipe.	Iron	Brass Cylinder.	No.	Fitted for Iron Pipe.	Iron Case, Brass Valve.	Brass Cylinder.
1	¾	$ 6.00	0	½	$ 4.50	$ 7.50	3	1	$12.00	$16.00
2	1	7.25	1	½	5.00	8.50	4	1¼	15.00	19.00
3	1¼	9.00	2	¾	6.00	10.00	5	1¼	16.00	20.00
4	1¼	10.00	3	1	7.25	13.50	6	1½	18.00	22.00
5	1½	12.00	4	1¼	9.00	16.00	7	2	20.00	24.00
7	2	14.50	5	1¼	10.00	20.00				
			6	1½	12.00	23.00				
			7	2	14.50	25.00				



Fig. G1818.

DOUBLE ACTING THRESHER FORCE PUMP.

Cylinder 5″ diameter.

Stroke 5″.

Tapped 2″ Iron Pipe.

Price, complete with Hose Connection as shown, and also with 2″ Suction Strainer and 1″ Hose Nozzle.

Each.....$10.00

IMPROVED HYDRAULIC RAM.

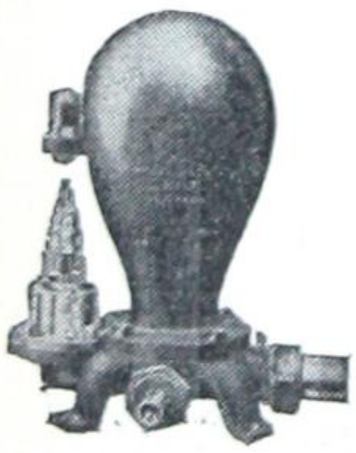


Fig. G1819.

The principal features of this Ram are Snifting Valve, admitting air to keep air chamber charged, Adjusting Nut to govern length of stroke, and Buffer, which forms cushion to impetus valve on up stroke and assists same to fall.

GENERAL RULE.—Multiply the quantity supplied by the spring (in gallons per minute) by sixty-five. Multiply this product by the "Head," or number of feet in fall; then divide by 100 times the height to which the water is to be elevated. The result will give the quantity of water raised per minute.

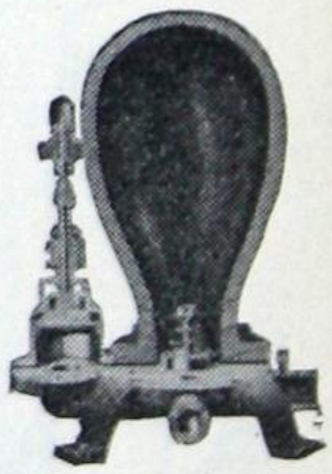


Fig. G1819 (Sectional)

Size Number	Minimum Quantity of Water Required to Operate Ram. Gallons per Minute.	Length of Drive Pipe, Feet.	SIZE OF PIPE, INCHES.		Price Each.
			Drive.	Discharge.	
2	2	Five to six times Height of Supply, and should not be less than ¾ the height to which water is raised.	¾	½	$ 9.00
3	4		1	½	11.00
4	6		1½	¾	14.00
5	12		2	1	22.00
6	25		2½	1¼	40.00



Fig. G1821.

DRIVE WELL POINT.

Brass Jacket.

Size Pipe, Inches	1¼	1½	2
Length, Inches..	24	24	24
Gauge No.....	60	60	60
Sq.Ins.ofopening	20	22½	26
Price, each.....	$3.00	$4.00	$6.25

PUMP CYLINDERS.

Fig. G1822.

Size, Inches	Pipe, Inch.	PRICE			
		Iron	Brass Lined.	Brass Shell.	All Brass
2 x 10	1	$ 3.75	$ 7.50	$ 8.00	$10.75
2½ x 10	1¼	4.35	8.00	8.50	12.25
3 x 10	1¼	5.00	9.00	9.75	13.50
3½ x 10	1½	7.00	10.50	11.50	16.75
4 x 10	1½	9.00	13.00	15.50	21.50
4½ x 10	2	12.50	20.00	22.50	30.50
2 x 12	1	5.50	8.00	9.25	11.25
2½ x 12	1¼	6.00	8.50	9.75	12.75
3 x 12	1¼	7.00	9.50	11.00	14.00
3½ x 12	1½	9.00	11.25	13.75	17.50
4 x 12	1½	11.50	14.25	18.00	22.50
4½ x 12	2	15.00	22.00	26.00	34.00

IRON BODY, LEATHER CLAPPER PUMP CHECK VALVES.

Vertical



Fig. G1823.

Size Iron Pipe.....	1″	1¼″	1½″	2″
Vertical Pump Checks, Black..	$1.00	$1.10	$1.40	$1.75
" " " Galvanized	2.00	2.20	2.80	3.50
Horizontal Pump Checks, Black	1.00	1.10	1.40	1.75
" " " Gal'd...	2.00	2.20	2.80	3.50

Horizontal



Fig. G1824.

FOOT VALVES.



Fig. G1825.

Size, Inches.....	½	¾	1	1¼	1½	2	2½	3	3½
Screwed, Black.....each.	$.42	.42	.44	.52	.65	.90	1.30	1.85	2.60
" Galvanized..... "	.60	.60	.60	.75	1.00	1.45	2.00	2.70	3.90
Flanged, Black..... "	....	....	....	....	....	....	2.10	2.50	3.25
" Galvanized..... "	....	....	....	....	....	....	3.00	3.50	4.50

Size, Inches.....	4	4½	5	6	7	8	10	12
Screwed, Black.....each	$2.80	4.00	4.25	7.00	16.00	16.00	29.00	58.00
" Galvanized..... "	4.25	6.00	6.50	10.00	30.00	30.00	50.00	90.00
Flanged, Black..... "	3.60	4.75	5.00	8.00	17.00	17.00	30.00	60.00
" Galvanized..... "	5.50	7.25	7.50	12.00	32.00	32.00	52.00	95.00

PUMP LEATHERS.

Upper Valve.



Fig. G1831.

Lower Valve.



Fig. G1832.

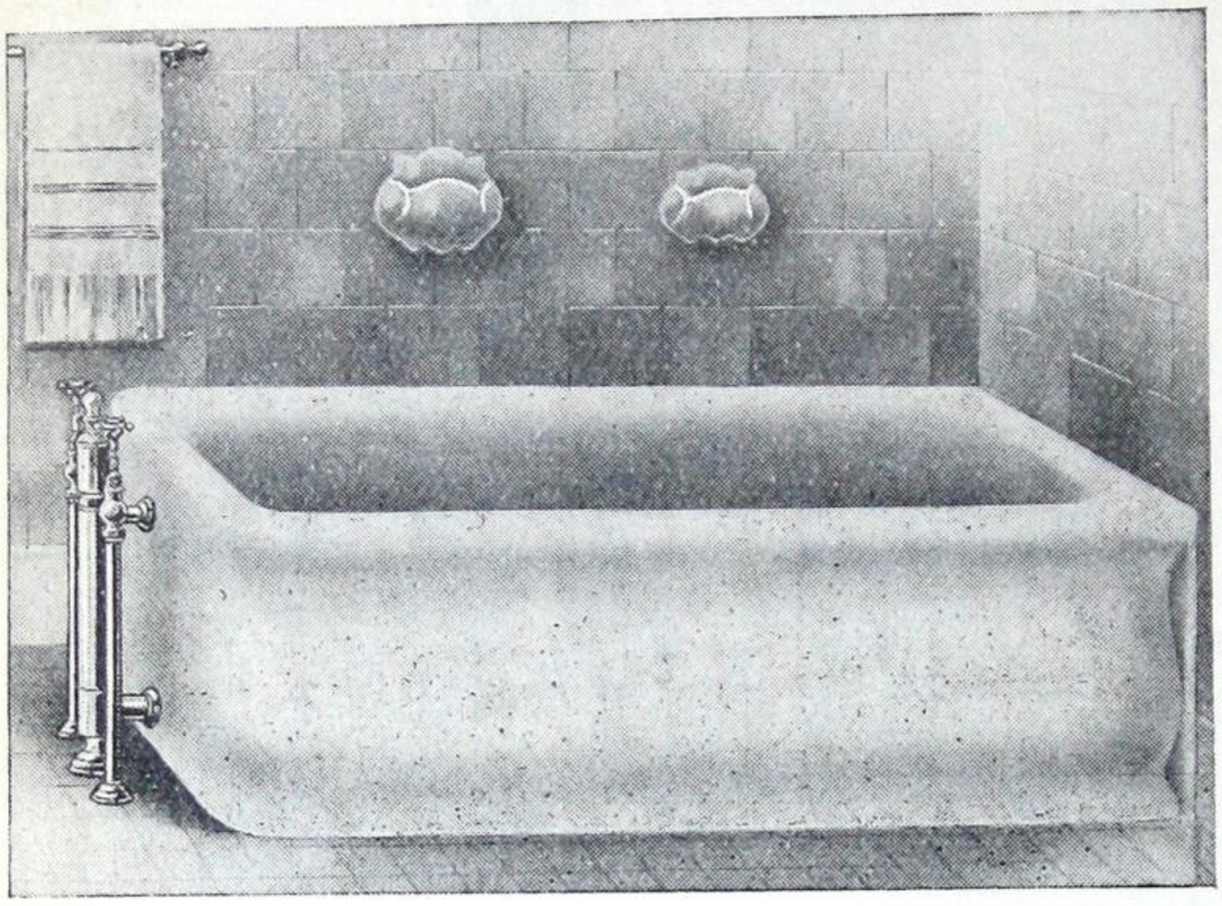
Cup.



Fig. G1833.

Size of Cylinder.....	2¼	2½	2¾	3	3¼	3½	4	4½	5
Outside dia. of Leather, Upper and Lower Valve.....	2¾	3	3¼	3½	3¾	4	4½	5¼	
Upper Valve Leather.....per doz.	$1.35	1.40	1.65	1.75	2.20	2.60	3.00	3.30	.....
Lower " " ..... "	1.35	1.40	1.65	1.75	2.20	2.60	3.00	3.30	.....
Cup Leathers..... "	1.40	1.80	2.00	2.30	2.60	3.45	4.45	5.60	7.00

When ordering always give size of cylinder and not number of Pump.



SPECIFICATION:

Plate G1841. — Robertson's "Imperial" White Porcelain Roll-rim Bath-tub on base to tile in corner of room, with nickel-plated combination bell supply and waste, with china indexes on compression valves and waste.

NOTE.—These bath-tubs can be furnished for either right or left hand corner. State clearly which corner is desired. The waste is through exposed end at bottom of tub. Plate shows Right Hand Corner.

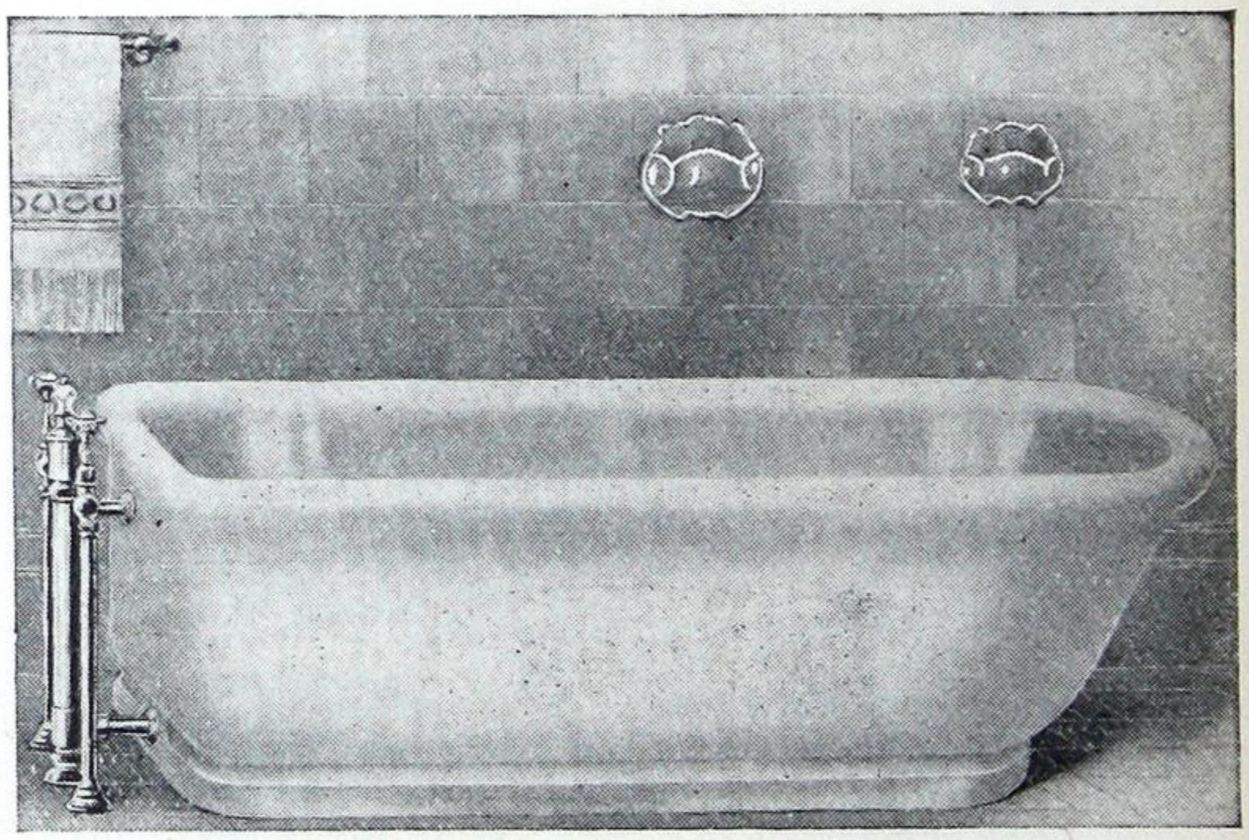
Outside width, 30″; inside depth, 19″; height from floor to top, 21″.

Length of bath-tub	5 feet.	5½ feet.	6 feet.
List price, glazed inside and outside as described	$168.00	$182.00	$218.00

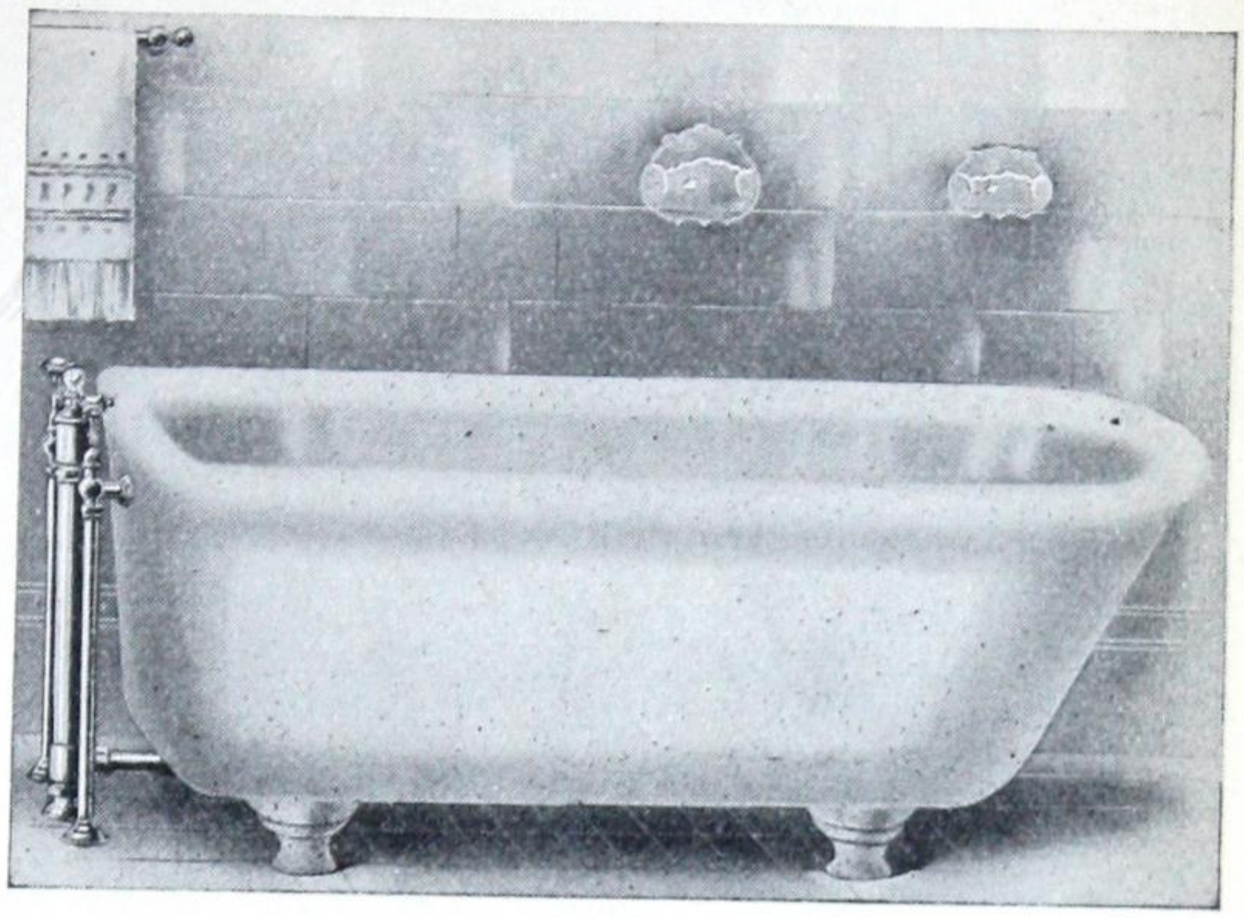
SPECIFICATION:

Plate G1842.— Robertson's "Imperial" White Porcelain Roll-rim Bath-tub on base, with nickel-plated bell supply and waste, with china indexes on compression valves and waste.

NOTE.—Outside width, 30″; inside depth, 17″; height from floor to top, 21″.



Length of bath-tub	4′ 6″	4′ 10″	5′ 4″
List price, glazed inside over roll-rim and along base as described	$112.00	$119.00	$130.00
List price, glazed all over as described	159.00	165.00	176.00

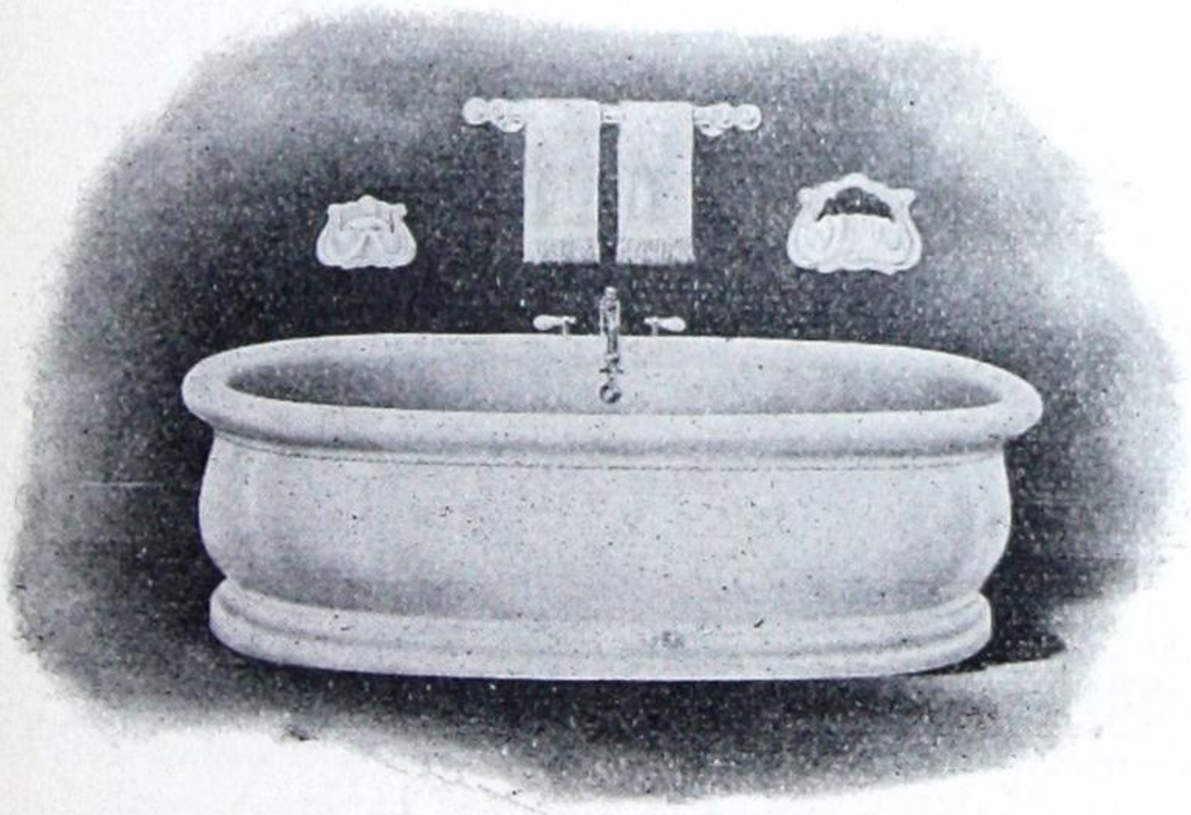


SPECIFICATION:

Plate G1843. — Robertson's "Imperial" White Porcelain Roll-rim Bath-tub on four porcelain feet, with nickel-plated bell supply and waste, with china indexes on compression valves and waste.

NOTE.—Outside width, 30″; inside depth, 17″; height from floor to top, 23½″.

Length of bath-tub	4′ 6″	4′ 10″	5′ 4″
List price, glazed inside and over roll-rim as described	$108.00	$115.00	$122.00
List price, glazed all over	154.00	161.00	168.00



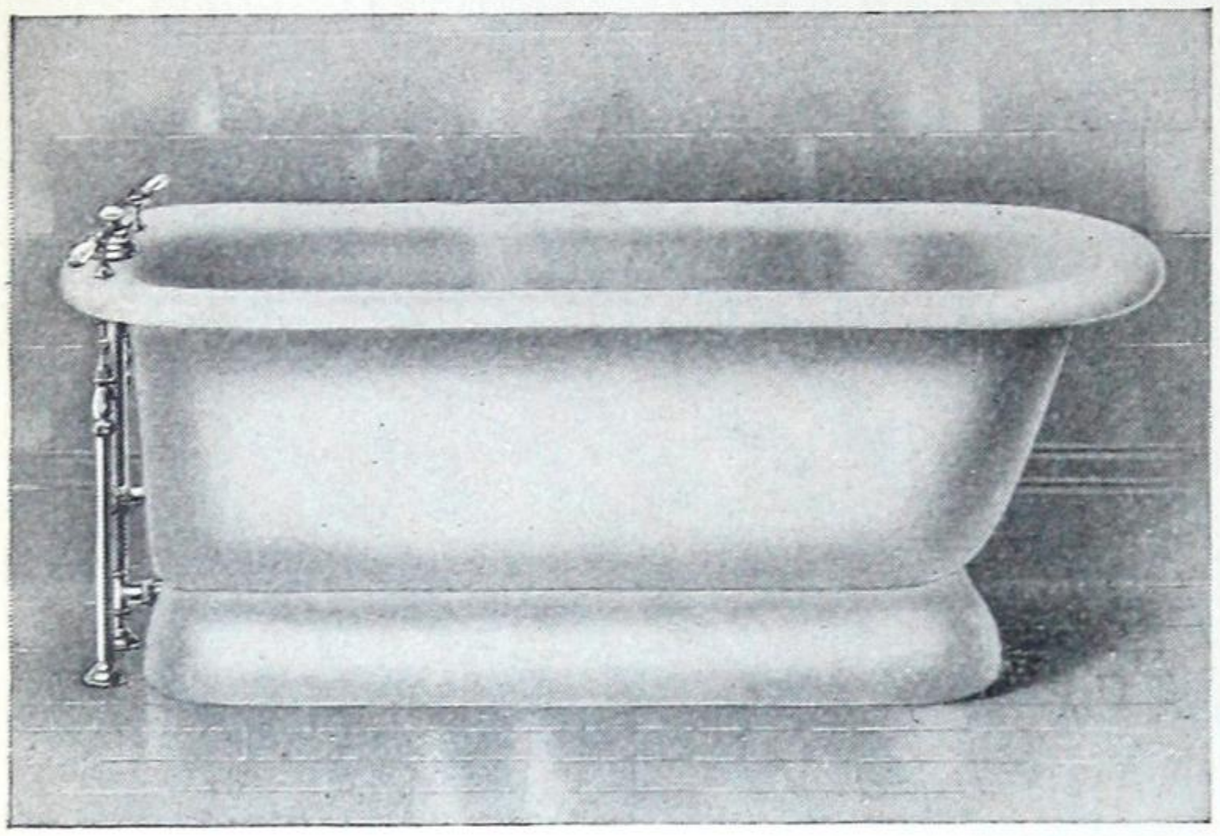
SPECIFICATION:

Plate G1844.—Robertson's "Imperial" White Porcelain Roll-rim Bath-tub on base, with nickel-plated bell supply and waste, with china indexes on "Accelo" valves and waste.

NOTE.—Outside width 5½ foot bath 34½ inches; 6 foot bath 36 inches.

Height from floor to top 21″, depth inside 19″.

Length of Bath Tub	5′ 6″	6′ 0″
List price, glazed inside and over roll-rim as described	$165.00	$178.00
List price, glazed all over	216.00	230.00



SPECIFICATION:

Plate G1845.—Robertson's "Luxuria" "Monarch" Porcelain Enameled Iron Bath-tub on base, 4¼-inch flat rim with nickel-plated "Accelo" bell supply and waste, with china lever handles on valves and china index on waste.

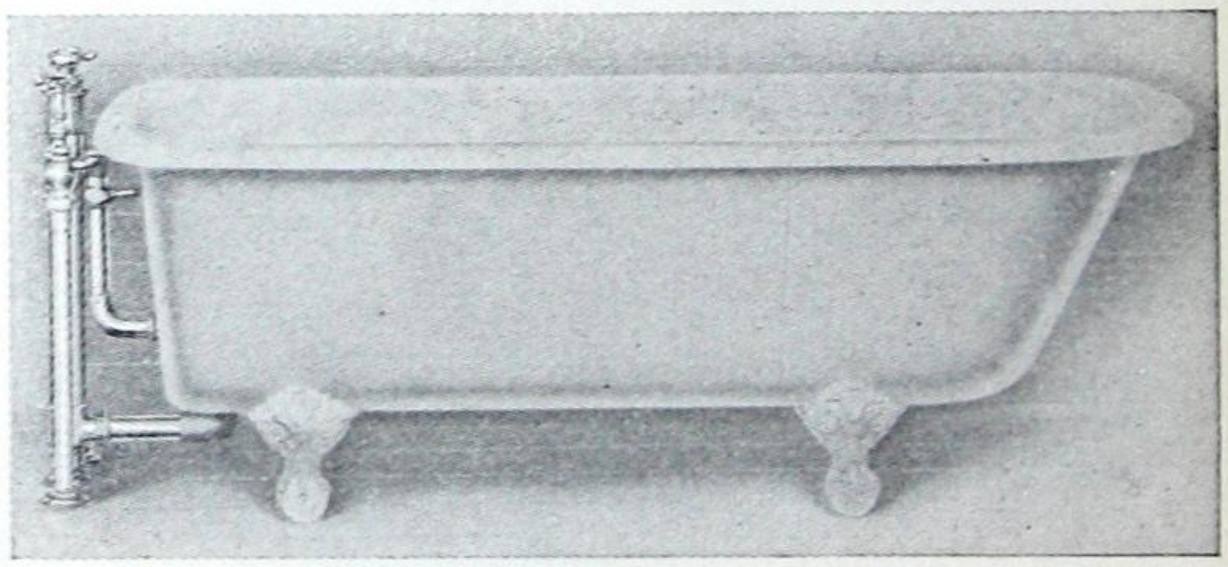
NOTE. — Width over rim, 32½"; height to top of rim, 22½": depth inside at outlet, 17¾".

Nominal Size	4½′	5′	5½′	6′
Length of bath-tub over rim	56¾"	63⅛"	68¾"	74⅝"
List price as described, painted one coat outside	$104.00	$111.00	$118.00	$125.00
If with No. 1 zinc white exterior finish, add	18.00	18.00	18.00	18.00
If with No. 2 zinc white exterior finish, add	13.00	13.00	13.00	13.00

SPECIFICATION:

Plate G1846.— Robertson's "Pandora" "Monarch" Porcelain Enameled Iron Bath-tub, with 3-inch roll rim, "Kelton" ball feet, nickel-plated Imperial waste and supply, with china index.

Note.—Width over Rim 30"; Height to Top of Rim 22"; Depth Inside 17".

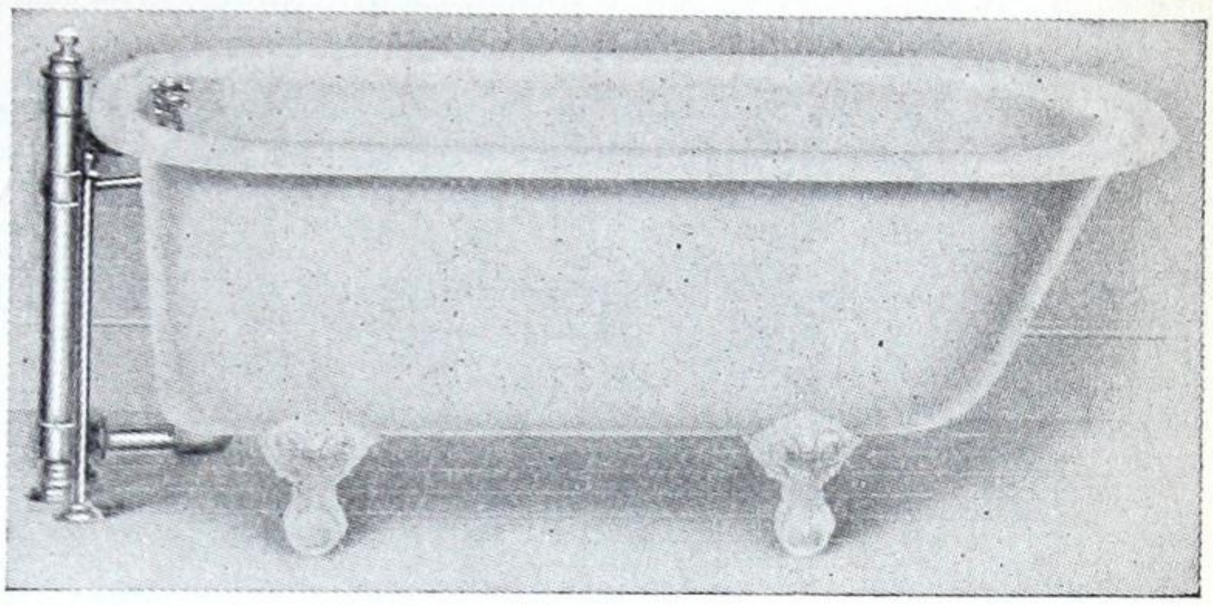


Length of bath-tub only over rim	4′	4½′	5′	5½′	6′
List price as described, painted one coat outside	$57.00	$57.00	$61.00	$66.00	$72.00
If with No. 1 zinc white exterior finish, add	21.00	21.00	21.00	21.00	21.00
If with No. 2 zinc white exterior finish, add	15.00	15.00	15.00	15.00	15.00

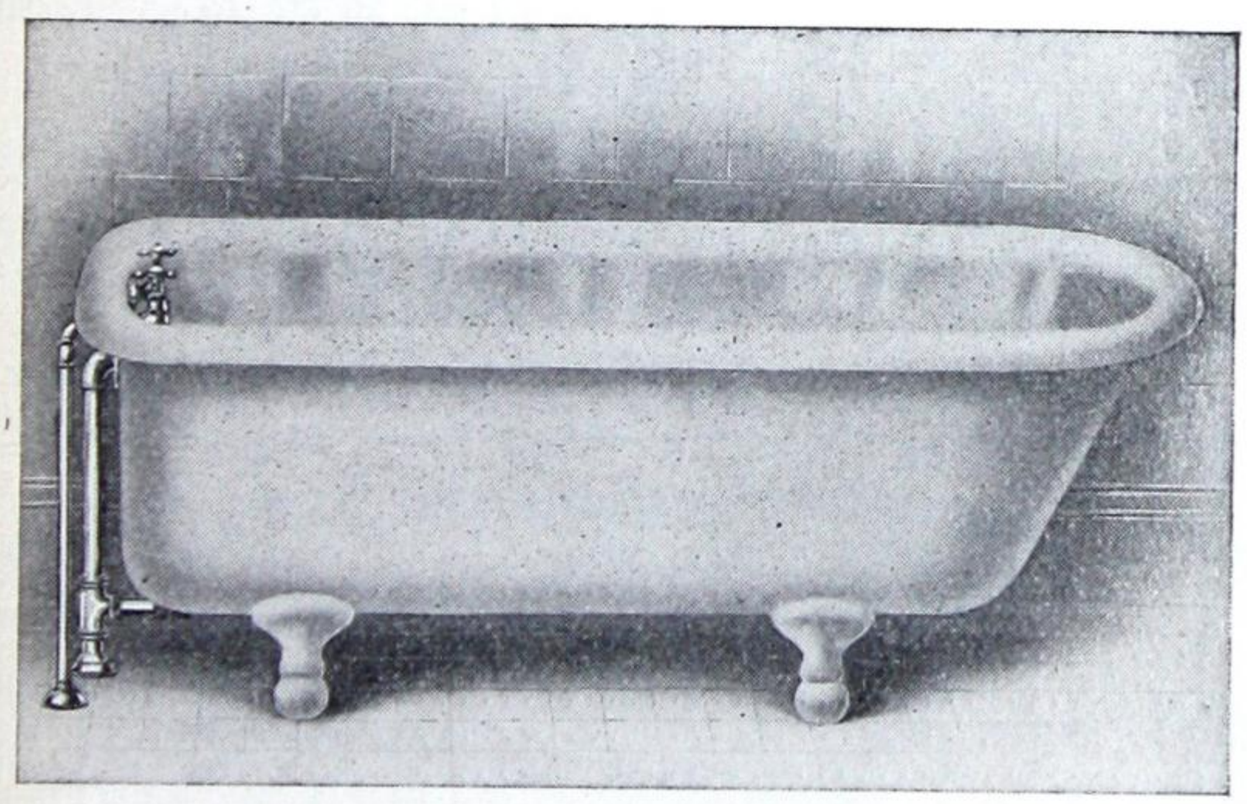
SPECIFICATION:

Plate G1847.— Robertson's "Pandora" "Monarch" Porcelain Enameled Iron Bath-tub, with 2½″ roll rim and "Kelton" ball feet, nickel-plated compression double bath cock, nickel-plated supply pipes and nickel-plated Royal Standing Waste.

Note.—Width over rim, 29″; height to top of rim, 22″; depth inside at outlet, 17″.



Length of bath-tub only over rim	4′	4½′	5′	5½′
List price as described, painted one coat outside	$46.00	$46.00	$49.00	$55.00
If with No. 1 zinc white exterior finish, add	21.00	21.00	21.00	21.00
If with No. 2 zinc white exterior finish, add	15.00	15.00	15.00	15.00



SPECIFICATION:

Plate G1848.—Robertson's "Sinoda" "Manarch" Porcelain Enameled Iron Bath-tub, with 2¼-inch roll rim, nickel-plated compression double bath cock, nickel-plated supply pipes and nickel-plated combined waste and overflow.

NOTE.—Width over rim, 29″; height to top of rim, 22½″; depth inside at outlet, 17½″.

Length of bath-tub over rim	4′	4½′	5′	5½′	6′
List price as described, painted one coat outside	$40.00	$40.00	$43.00	$49.00	$55.00
If with No. 1 zinc white exterior finish, add	21.00	21.00	21.00	21.00	21.00
If with No. 2 zinc white exterior finish, add	15.00	15.00	15.00	15.00	15.00

CAST IRON ENAMELED BATH.

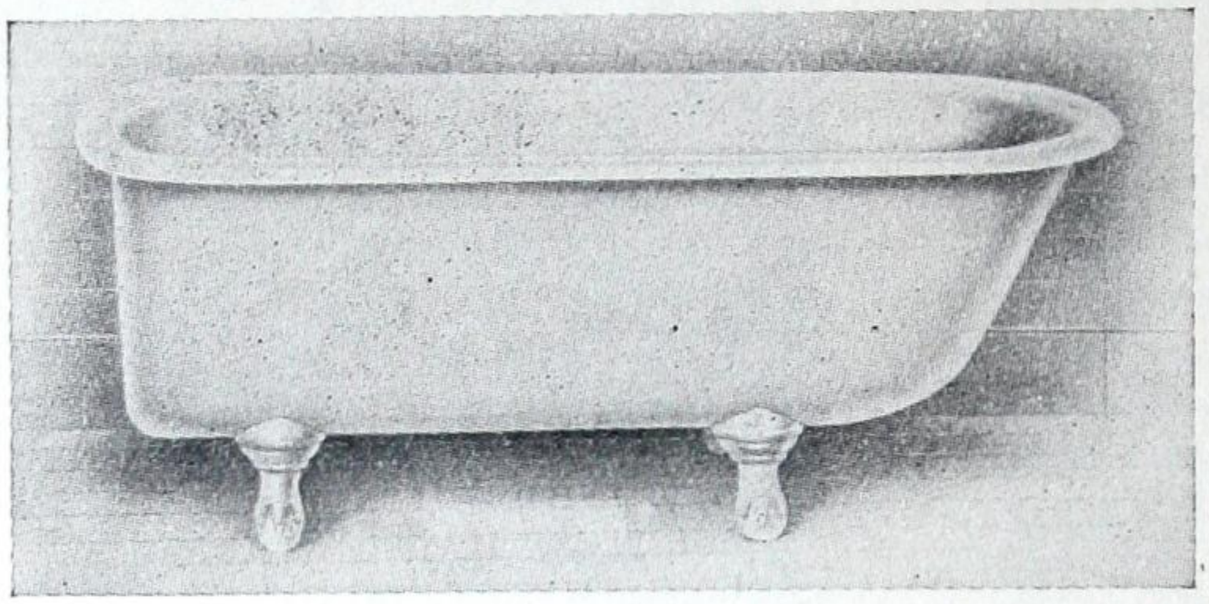


Plate G1849.

BATH ONLY (No Fittings).

Dimensions—Inches				GUARANTEE	Length of Bath in Feet.				
Width	Height to Top of Rim	Depth Inside	Rim		4	4½	5	5½	6
30	22	17	3	Five Years.....Each	$33.75	$33.75	$37.88	$42.94	$49.15
29¾	22½	17½	2½	" " ..... "	32.30	32.30	36.65	40.95	.....
29	22½	17½	2¼	" " ..... "	32.30	32.30	35.65	40.95	47.50
26	22½	17	2	" " ..... "	32.30	32.30	36.65	40.95	.....
24½	22½	17½	1¾	" " ..... "	32.30	32.30	35.65	40.95	.....
30	22	17	3	Two Years ..... "	24.40	24.40	24.40	27.63	32.19
29¾	22½	17½	2½	" " ..... "	24.40	24.40	24.40	27.63	32.19
26	22½	17	2	" " ..... "	24.40	24.40	24.40	27.63	32.19
24½	22½	17½	1¾	" " ..... "	24.40	24.40	24.40	27.63	.....
24½	22	17¼	1½	" " ..... "	24.40	24.40	24.40	27.63	32.19

If with Fitting	G1850.a	½" Supplies	Add	$21.00
" "	G1850.a	¾" "	"	23.50
" "	G1850.b	½" "	"	22.50
" "	G1850.b	¾" "	"	25.00
" "	G1850.b	Less Tube and Spray	Deduct	1.50
" "	G1850.c		Add	14.50
" "	G1850.d		"	8.75

For Grinding or Smoothing Outside of Bath	Add	3.00
" No. 1, Zinc White Finish " "	"	21.00
" No. 2, " " " " "	"	15.50

Note.—Be careful when ordering Baths that Style of Fitting is mentioned on account of difference in drilling.

BATH FITTINGS—NICKEL-PLATED.

IMPERIAL WASTE AND SUPPLY

Bottom Bell.

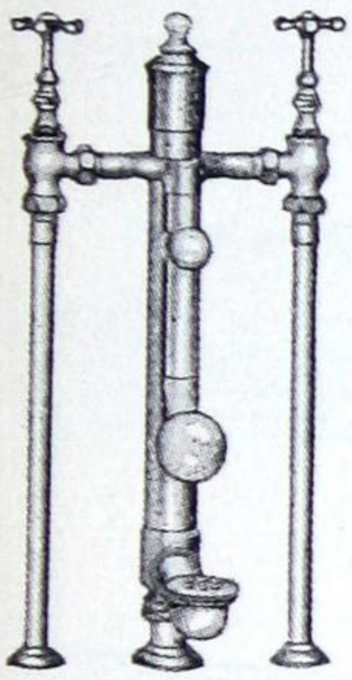


Plate G1850.a

Top Bell with Tube and Spray.

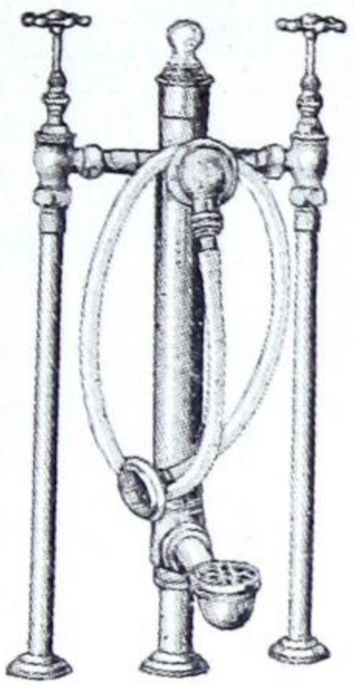


Plate G1850.b

Royal Waste with Bath Faucet. G1032.a and ½″ Supply Pipes.

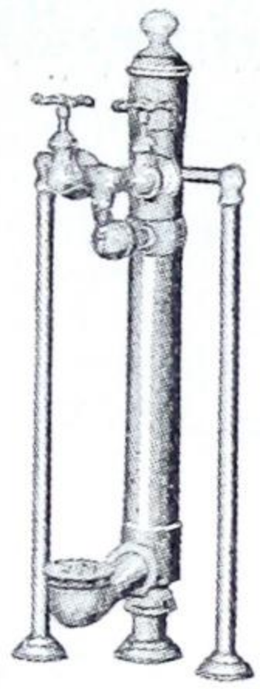


Plate G1850.c

Combination Waste and Overflow with Bath Faucet G1032.a and ½″ Supply Pipes.

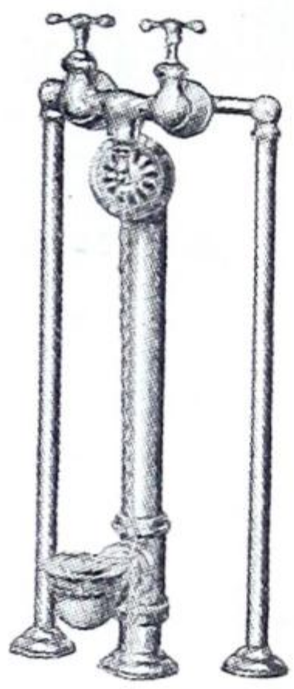
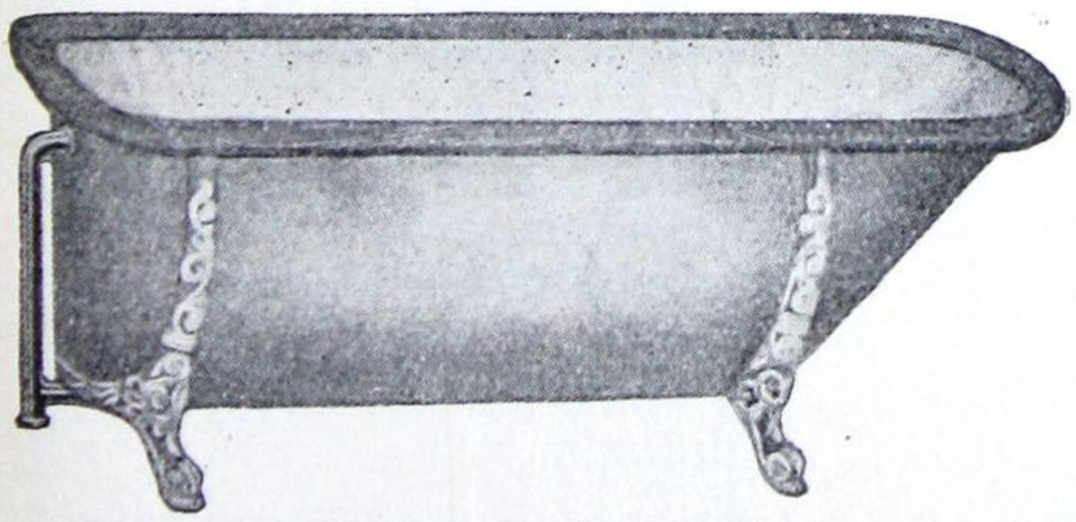


Plate G1850.d

ALL STEEL BATH.



SPECIFICATION:

Plate G1851.—All Steel Bath, constructed of Galvanized Sheet Steel and coated inside with white Enamel, baked on.

List Price, 5′ 0″ or 5′ 6″, each $13.50

Note.—These baths are furnished with wood rims and are fitted with combination waste and overflow, as shown.

ROBERTSON'S "UBIQUE"

MONARCH PORCELAIN ENAMELED BATHS.

Free from Wall—Fitting at End.

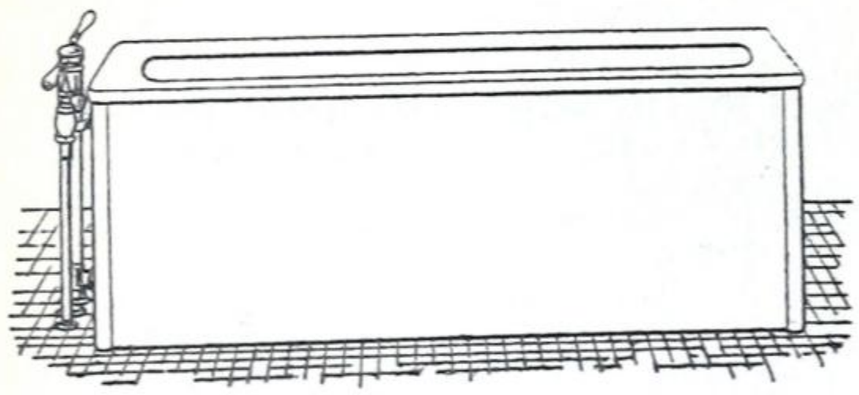


Plate G1852.a

Back to Wall—Fitting at Left Hand End.

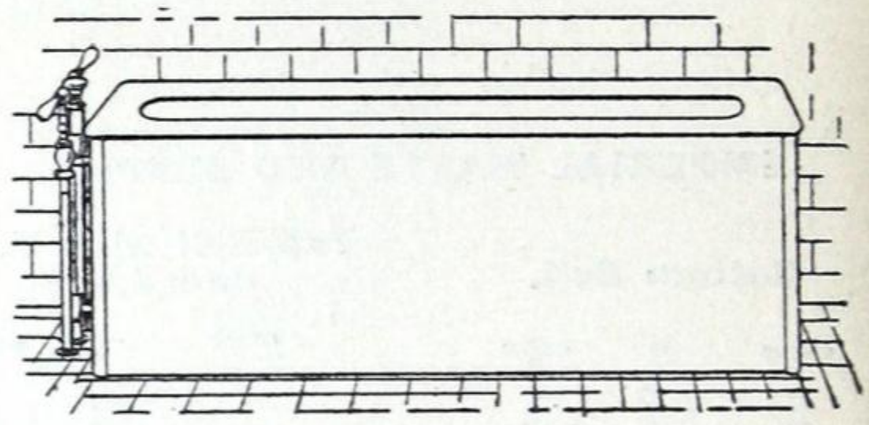


Plate G1852.b

End to Wall—Fitting at End.

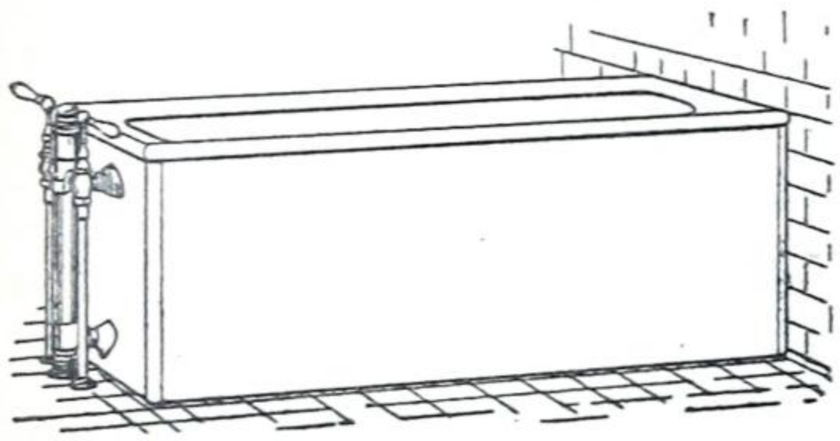


Plate G1852.c

End to Wall—Fitting in Wall.

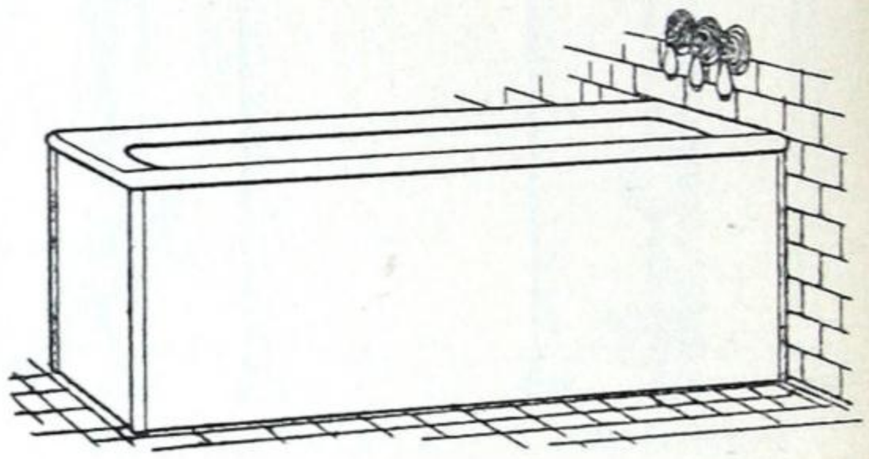


Plate G1852.d

Left Hand Corner—Fitting at End.

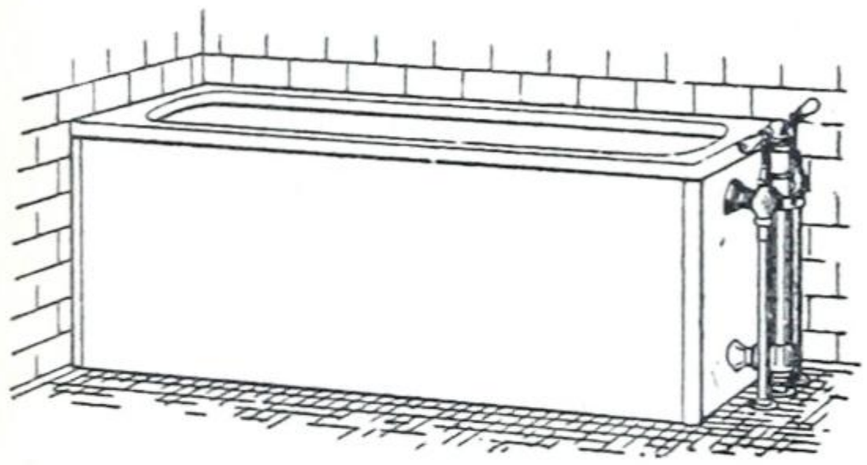


Plate G1852.e

Right Hand Corner—Fitting at End in Wall.

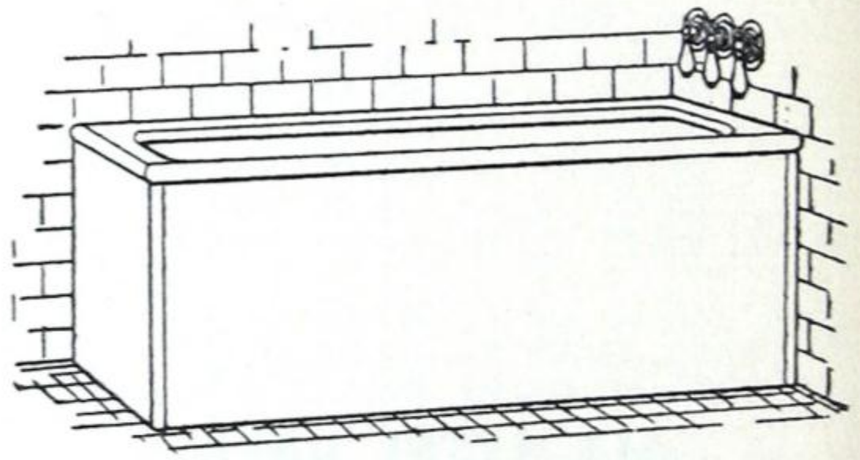


Plate G1852.f

Recess—Fitting at End in Wall.

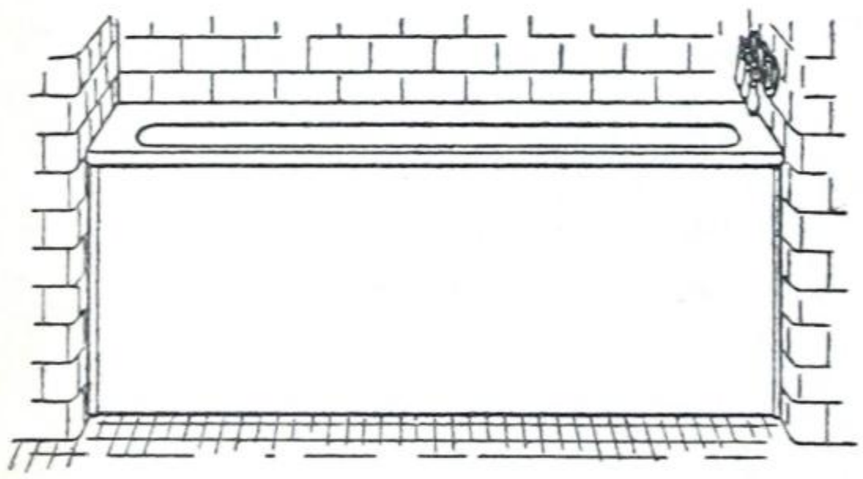


Plate G1852.g

Recess—Fitting at Back in Wall.

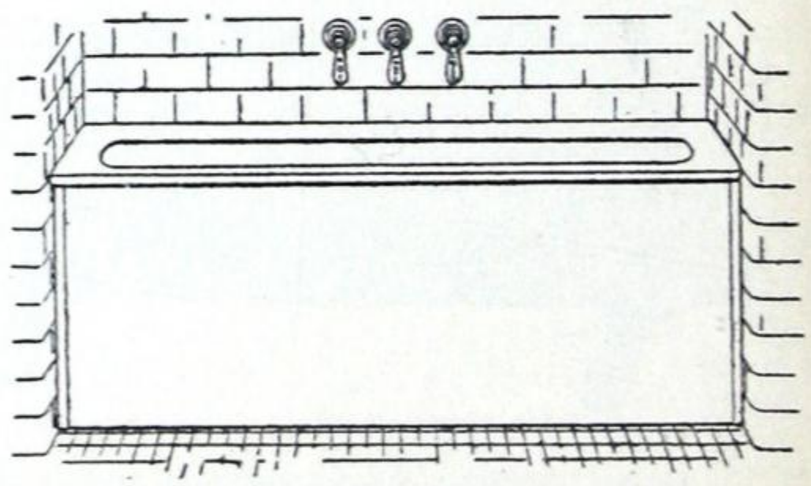


Plate G1852.h

Bath for Right Hand Corner. Fitted with Robertson's "Accelo" Bell Supply and Waste Fitting—Exposed.

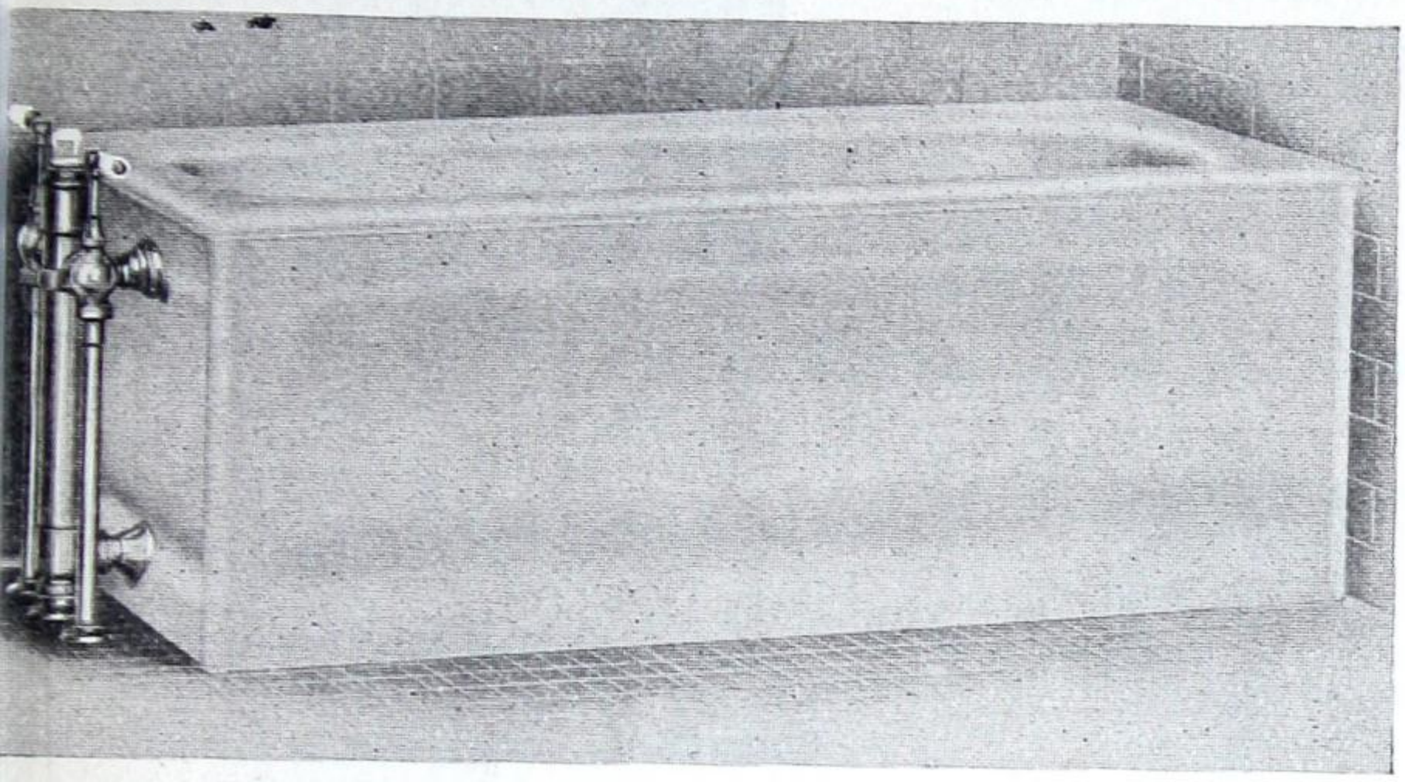


Plate G1852.i

Robertson's "Accelo" Bell Supply and Waste Fitting—in Wall.

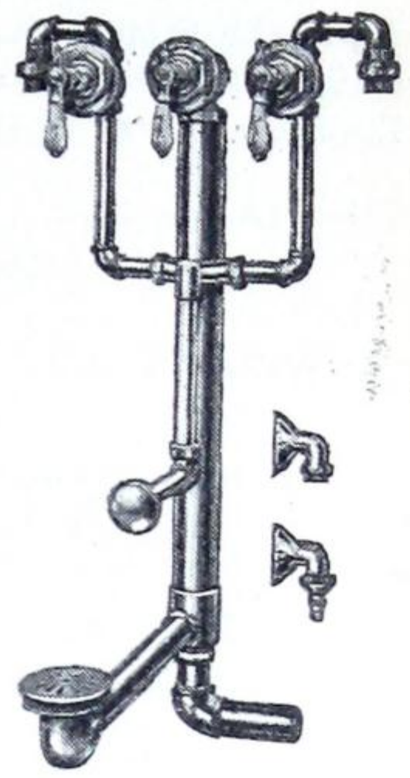


Plate G1852.j

Price List of Robertson's "Ubique" Monarch Porcelain Enameled Baths—Less Fittings.

ominal Sizes—Feet		4½	5	5½	6
ngth Over all of Bath	Inches	56¾	63¼	68¼	75
idth, " "	"	30½	30½	30½	30½
eight:—					
Regular	"	22	22	22	22
Low Pattern	"	18	18	18	18
epth Inside of Bath:—					
Regular and Low Pattern	"	17	17	17	17
ee from Wall, Plate G1852.a	Each.	$125.25	$132.75	$142.00	.....
ck to Wall, Plate G1852.b	"	105.75	111.75	119.25	.....
d to Wall, Plates G1852.c and G1852.d	"	114.75	122.25	131.50	.....
rner, Right or Left, G1852.e and G1852.f	"	95.00	101.00	108.75	.....
cess, Plate G1852.g and G1852.h	"	84.50	90.50	98.00	.....

Where Bath Sets into Wall deduct 1½" off measurements given above both as regards to length or dth, and into Floor ½", so that height from Floor to Top of Rim on Regular Pattern will be 21½" and Low ttern will be 17½".

with Fitting as shown in Plate G.1852.i	Add	$23.50
" " " " G.1852.j	"	35.00

Both of above Fittings can be furnished with Top or Bottom Bell Supply.

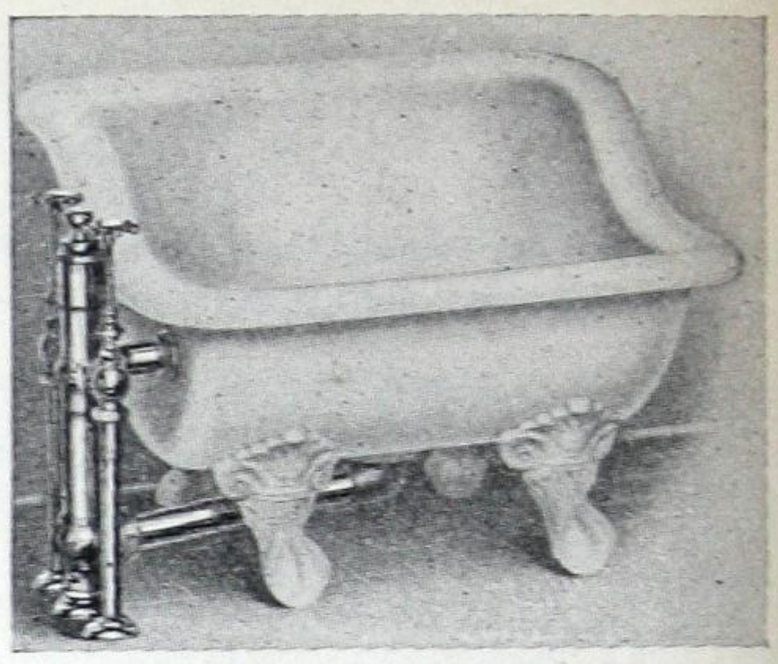
Top Supply is required with Tube and Spray, add for Tube and Spray 1.50

SPECIFICATION:

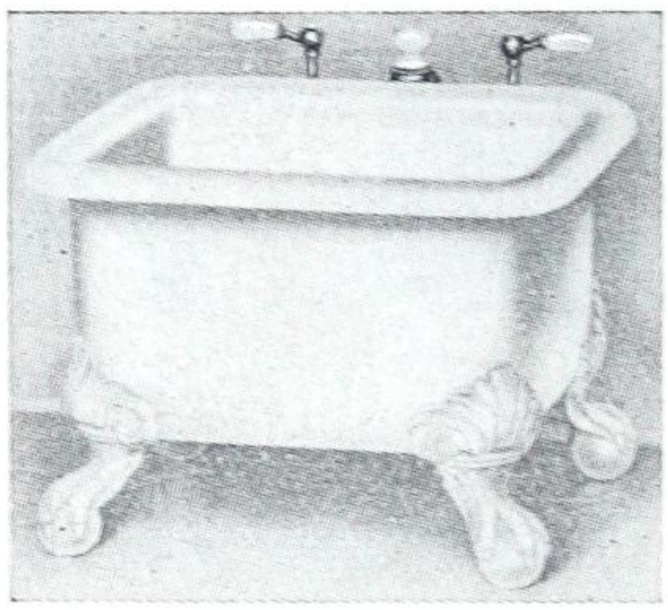
Plate G1853.—Robertson's "Monarch" Porcelain Enameled Sitz Bath on Claw Feet, fitted with Nickel-Plated Imperial Bell Supply and Waste Fitting, G1383. Outside of Bath painted one coat.

Front to Back over Rim 27¾″, Width over Rim 28½″, Width of Rim 3″, Height to Top of Rim at Back 20″, Height to Top of Rim at Front 15″, Depth Inside at Outlet, 10½″.

Price, as described..... $65.00
" Less all Fittings..... 44.00



Add for Zinc White Exterior Finish, No. 1, $14.50; No. 2, $10.50.



SPECIFICATION:

Plate G1854.—Robertson's "Monarch" Porcelain Enameled Foot Bath on Claw Feet, fitted with Imperial Bell Supply and Waste Fitting, with "Accelo" Valves, China Lever Handles. Outside of Bath painted one coat.

	Over Rim.		Width of Rim.	Height to Top of Rim	Depth Inside at Outlet	Price.	
	Length	Width				As Described	Without Fittings
No. 1.....	22¼″	19½″	2¼″	15½″	10¾″	$49.00	$25.50
No. 2.....	25″	23″	2½″	18″	13″	51.25	27.75

Add for Zinc White Exterior Finish, No. 1, $9.25; No. 2, $6.50.

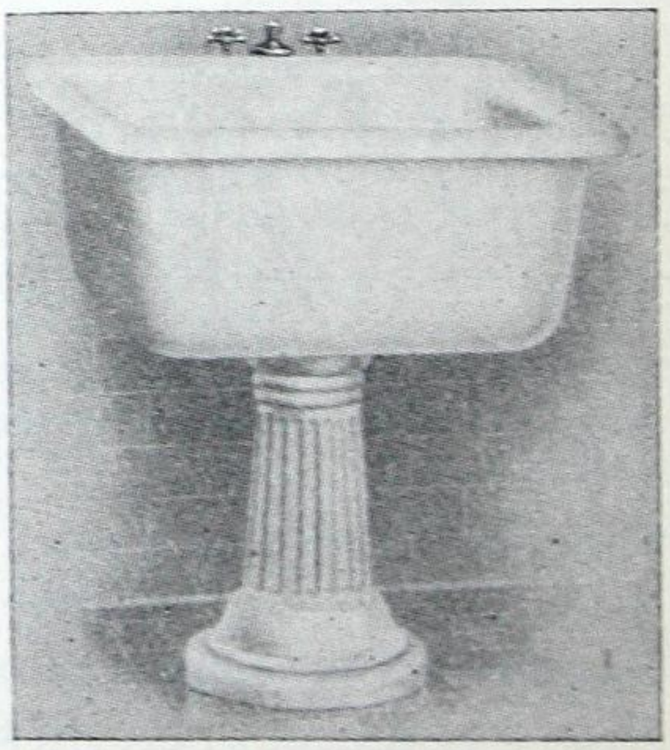
SPECIFICATION:

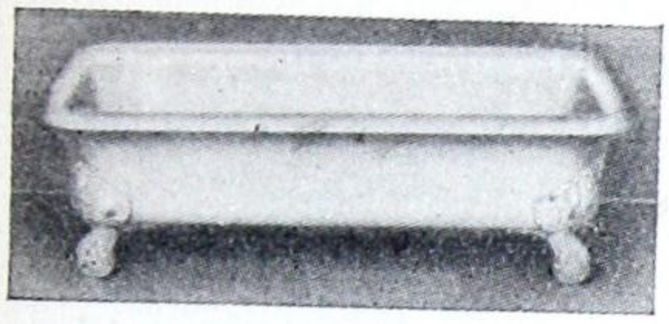
Plate G1855.—Robertson's "Monarch" Porcelain Enameled all over Child's Bath on Porcelain Enameled Pedestal fitted with Nickel-Plated Imperial Bell Supply and Waste Fitting, G1383.

Length over Rim 32″, Width over Rim 20″, Width of Rim 2¼″, Height to Top of Rim 30″, Depth Inside at Outlet 12″.

Price, as Described..... $83.75
" Less all Fittings..... 60.25

Note. — Fittings do not include Trap. If Trap is required, see prices of Traps on pages 150, 151 and 155, any of which can be fitted. Supply Pipes and Waste furnished to wall or Floor as desired.





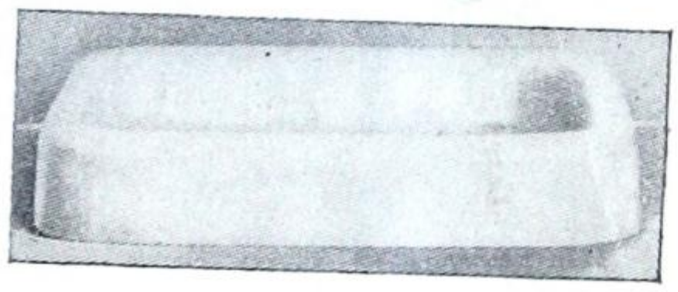
SPECIFICATION:

Plate G1856.a—Robertson's "Monarch" Porcelain Enameled Receptor on Claw Feet, with Nickel-Plated Strainer and Waste Connection, Outside of Receptor painted one coat.

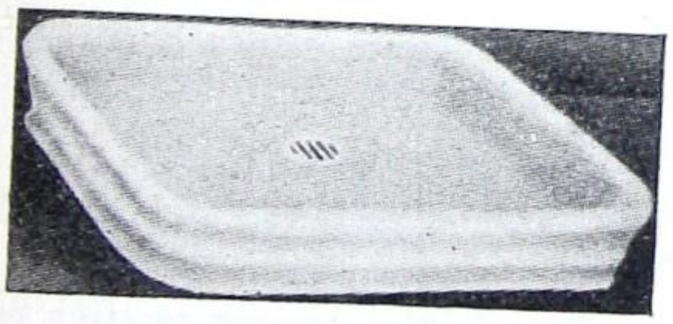
Size, Inches	36 x 36	42 x 42
Price, as described	$45.75	$63.00
If with Base instead of Feet (not illustrated)— Price, as described above	53.75	80.00

SPECIFICATION:

Plate G1856.b—Robertson's "Monarch" Porcelain Enameled Receptor with Apron to Floor, with Nickel-Plated Strainer and Waste Connection. Size 38″ x 38″. Width of Rim, 3″. Depth at Outlet, 6¼″. Height to Top of Rim, 7″.



Price, as described..... $71.75



SPECIFICATION:

Plate G1857.—Robertson's "Monarch" Porcelain Square Shower Bath Receptor, Glazed Pure White and Fitted with Nickel-Plated Outlet Strainer.

ize, Outside—Inches	36 x 36 x 9	42 x 42 x 9
nside Depth, Inches	7½	7½
rice, as described	$75.00	$120.00

Showers equipped with **Speakman** Non-Scalding Regulating Valves are the best.

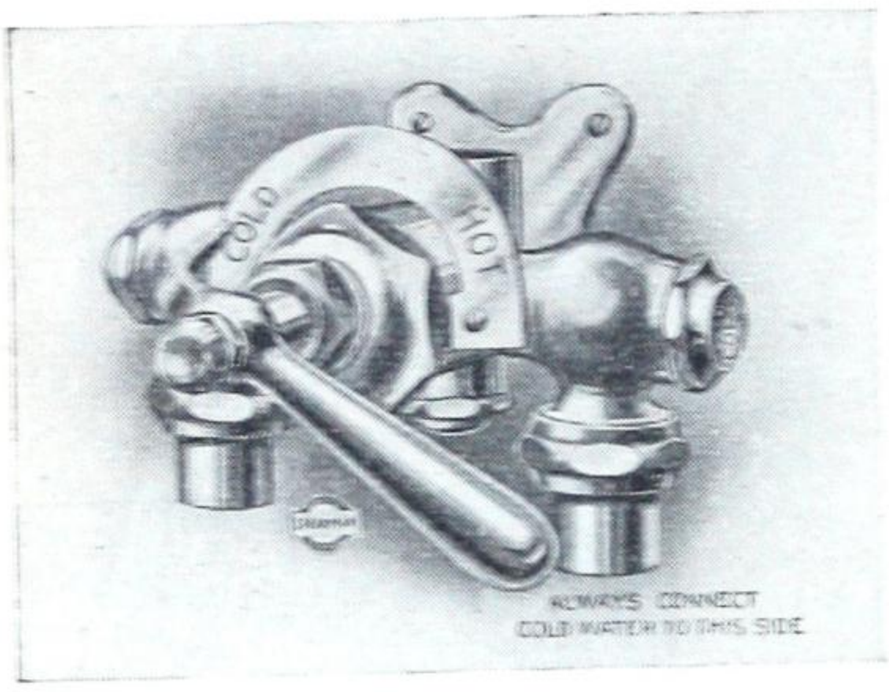
By Non-Scalding it is meant that cold water is always first obtained, then mixed, and finally hot water.

The temperature of the water and the opening and closing of the valves are all controlled by the one handle.

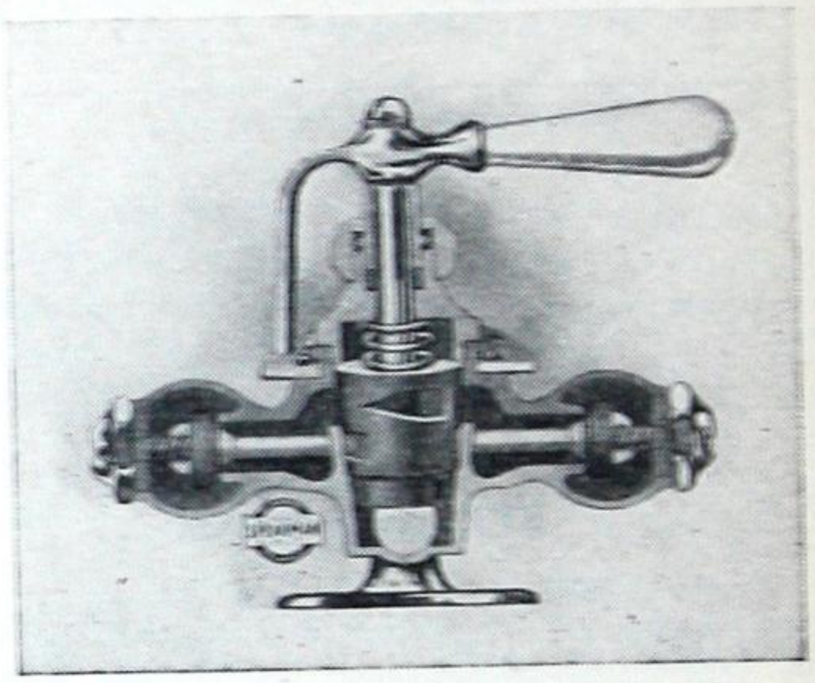
The ports of the valve are so arranged that in mixing the water, the **volume** is constant and does not change.

The valve is simple in construction, with no complicated parts to get out of order.

Note the supporting flange at the back, which secures the shower firmly to the wall.



Speakman Non-Scalding Regulating Valve.
Patented March 27th, 1906.



Cross-Section View of
Speakman Non-Scalding Regulating Valve

Showers fitted with Non-Scalding Regulating Valves, also the Speakman Needle Baths, are fitted with **Strainer Unions** to prevent sediment and other foreign matter from clogging up the small spray holes.



Strainer Union
Patent applied for.

The showers shown herewith are made of brass, heavily nickel-plated.

The supply pipes are iron pipe size. The shower curtains are of best quality white duck.

To obtain proper results with Needle Baths, the water pressure should be at least 20 pounds and the supply pipes amply large.

SHOWERS

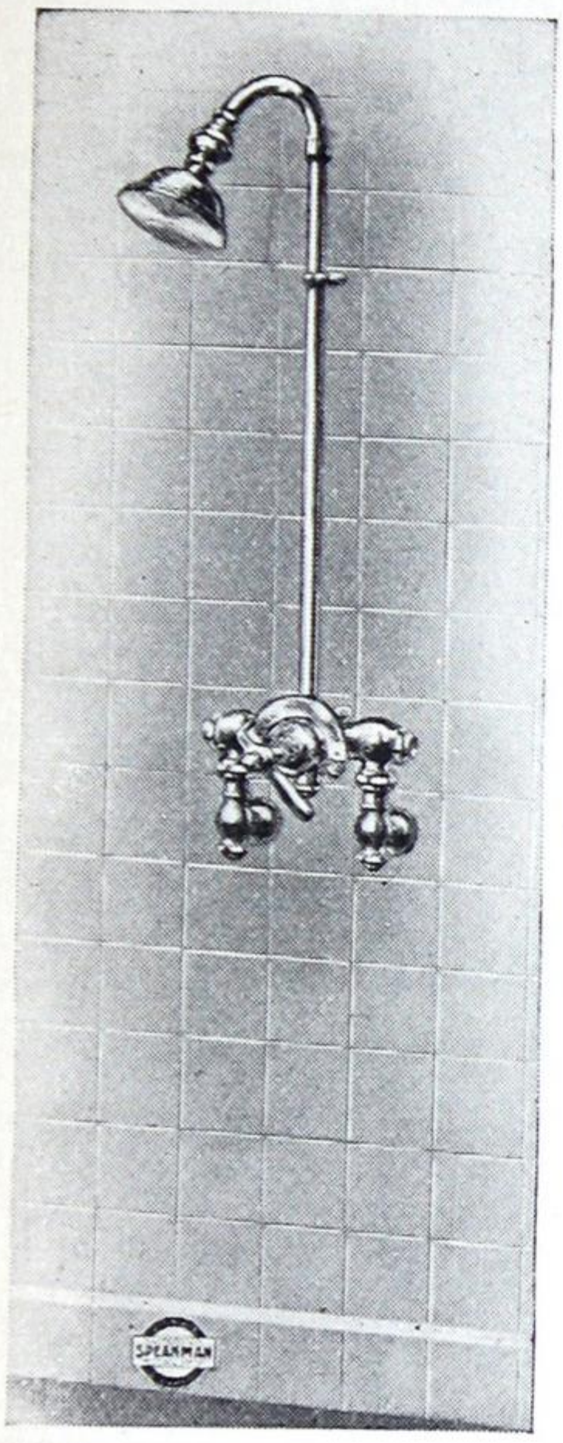


Fig. G1858.a

Speakman Shower with No. 2 Non-Scalding Regulating Valve, Strainer Unions, cast brass Needle Head, with removable face and supply pipes to wall.

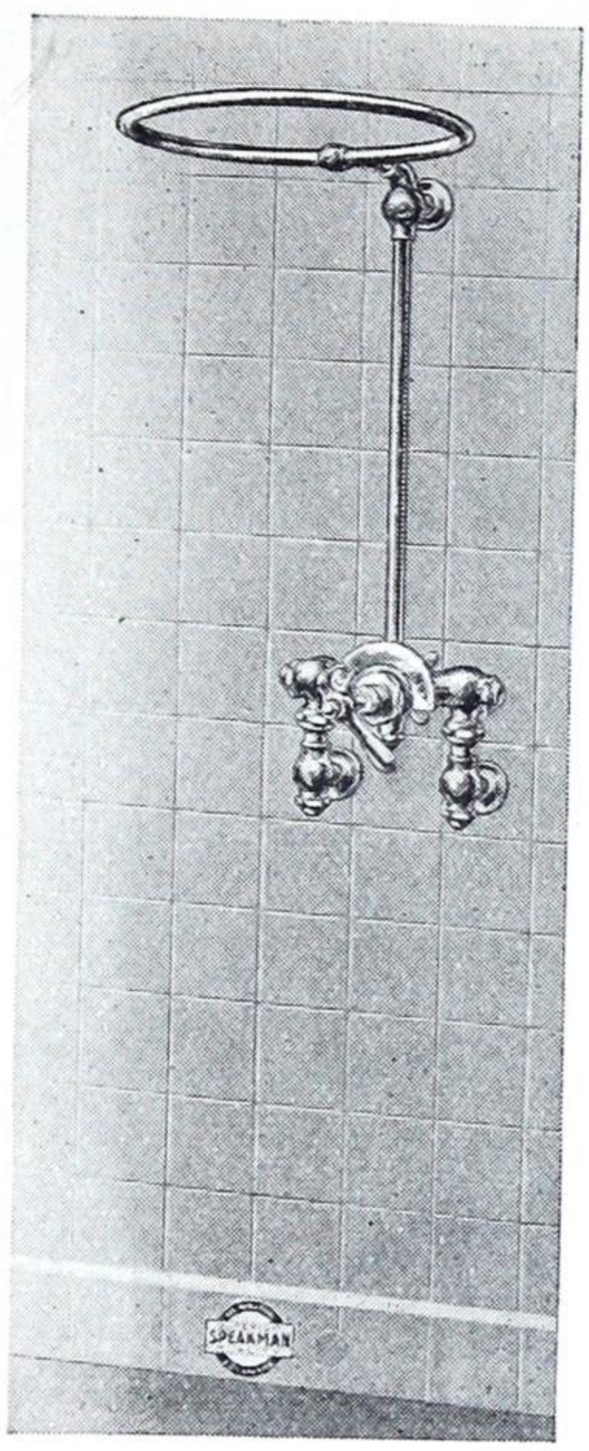


Fig. G1858.b

Speakman Shower with No. 2 Non-Scalding Regulating Valve, Strainer Unions, Needle Shower Ring and supply pipes to wall.

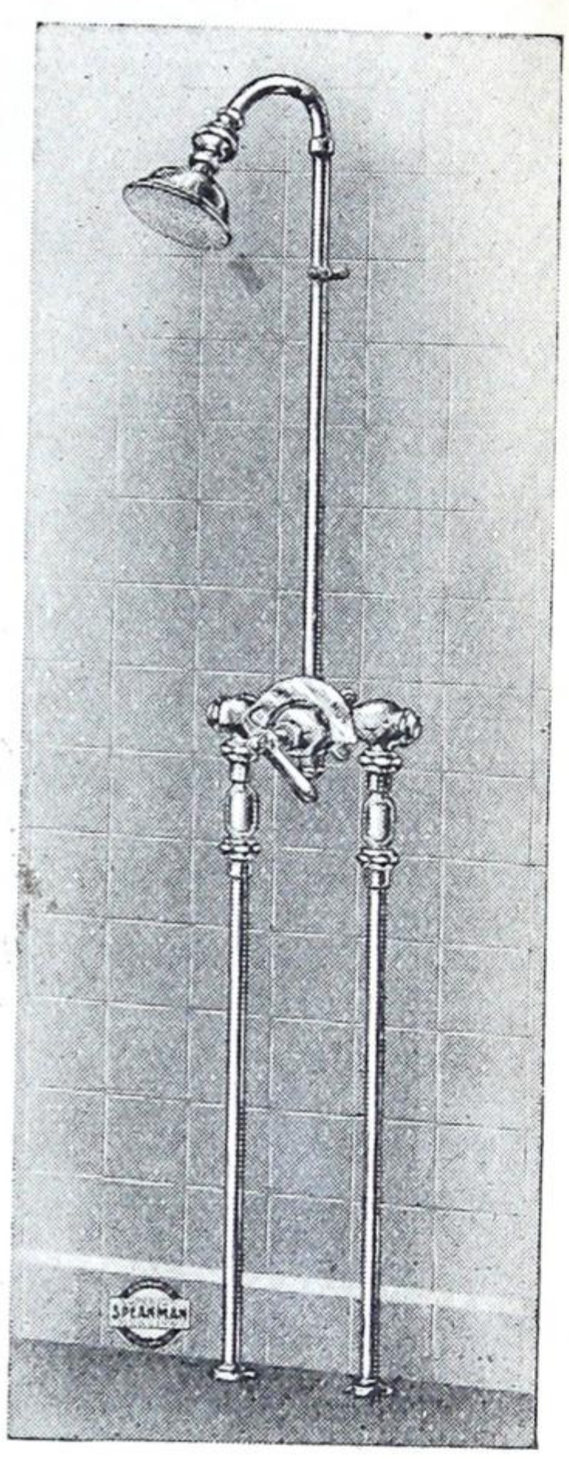


Fig. G1858.c

Speakman Shower with No. 2 Non-Scalding Regulating Valve, Strainer Unions, cast brass Needle Head, with removable face and supply pipes to floor.

Supply.	Discharge.	Fig. G1858.a	Fig. G1858.b	Fig. G1858.c
½ inch	½ inch	$50.00	$47.50	$54.50
½ inch	¾ inch	58.00	53.00	63.00
¾ inch	¾ inch	68.00	.....	74.00

SHOWERS

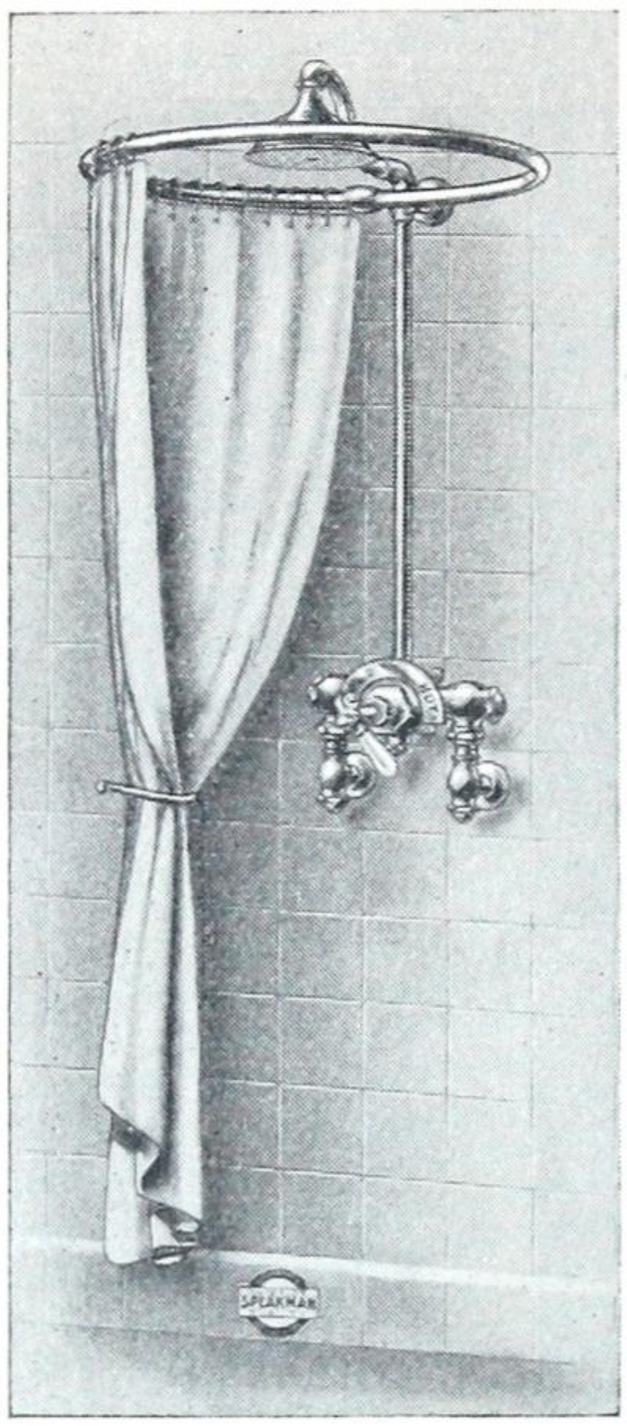


Fig. G1859.a

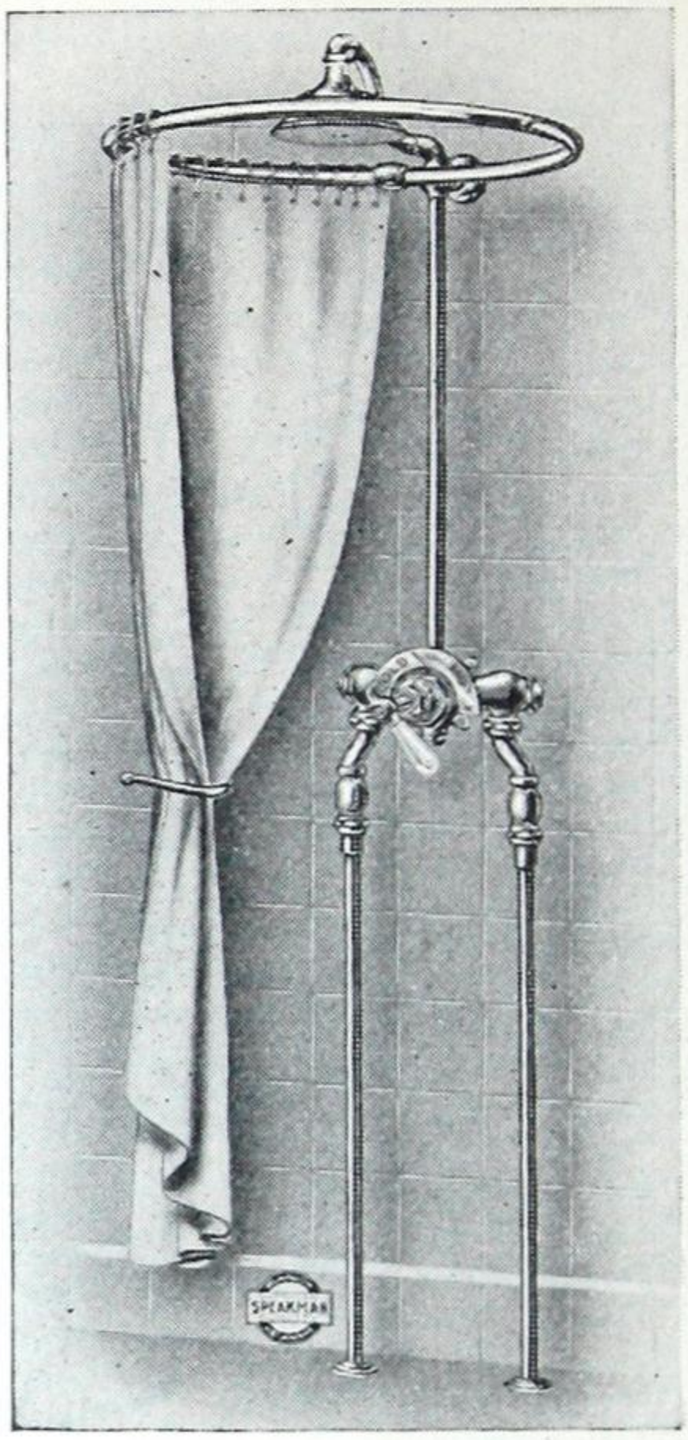


Fig. G1859.b

Speakman Shower with No. 1 Non-Scalding Regulating Valve, Strainer Unions, 24 x 30 inch Oval Curtain Ring, White Duck Curtain and supply pipes to wall.

Speakman Shower with No. 1 Non-Scalding Regulating Valve, Strainer Unions 24 x 30 inch Oval Curtain Ring, White Duck Curtain and supply pipes to floor.

Supply.	Discharge.	Fig. G1859.a	Fig. G1859.b
½ inch	½ inch	$72.50	$77.50
½ inch	¾ inch	82.00	87.50
¾ inch	¾ inch	99.00	105.00

SHOWERS

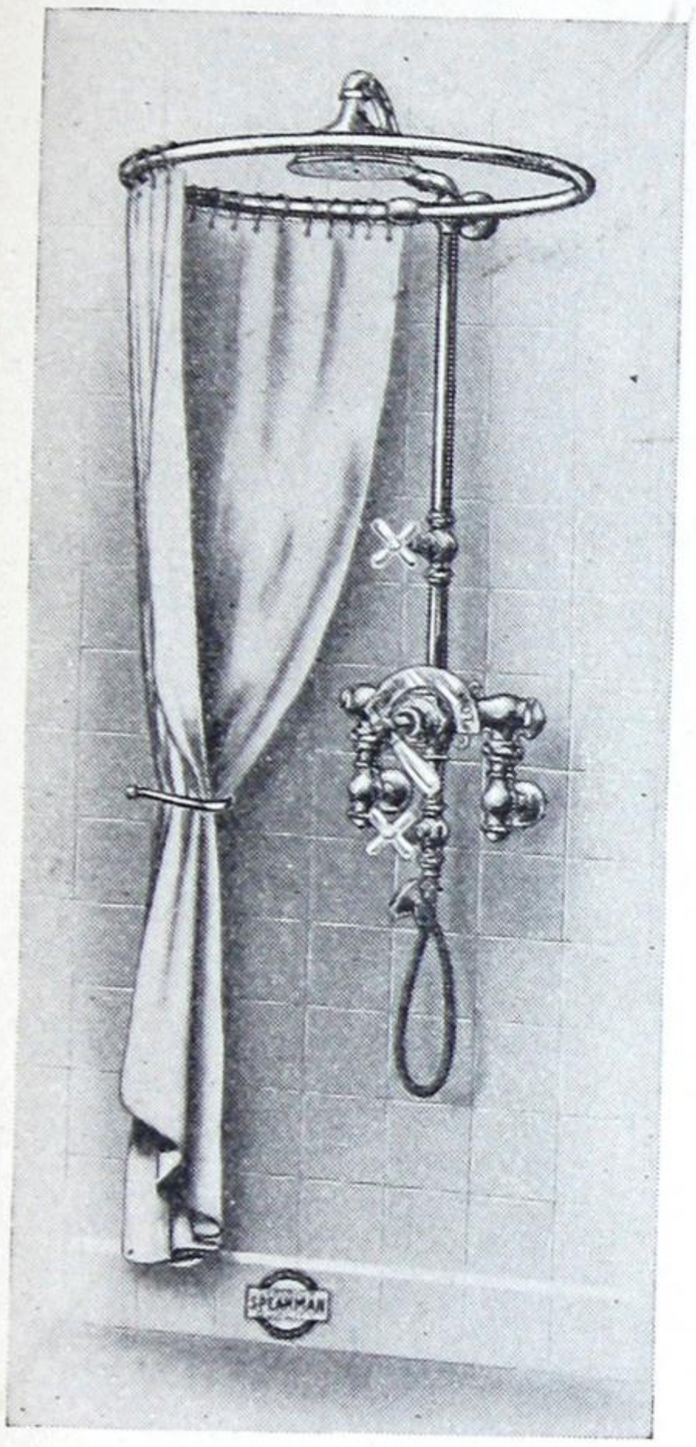


Fig. G1859.c

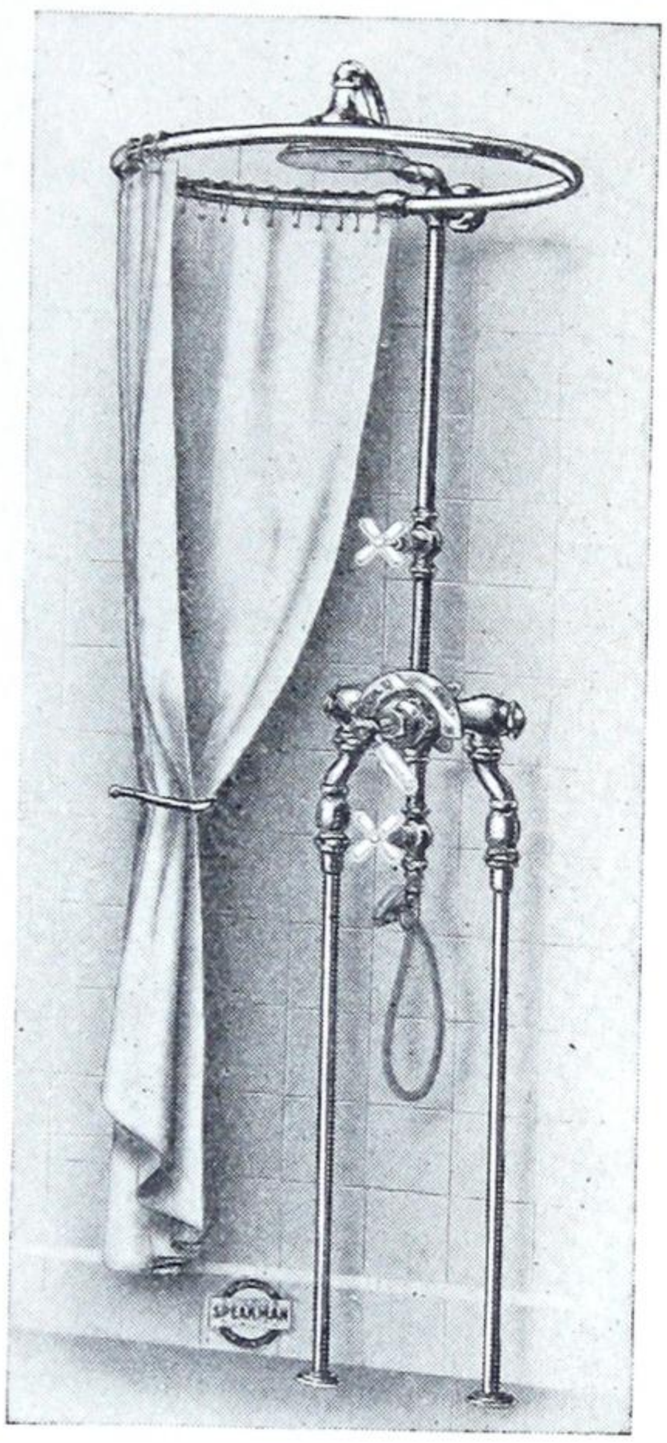


Fig. G1859.d

Speakman Shower with No. 1 Non-Scalding Regulating Valve, Strainer Unions, Controlling Valves having Solid China Handles, Shampoo, 24 x 30-inch Oval Curtain Ring, White Duck Curtain and supply pipes to wall.

Speakman Shower with No. 1 Non-Scalding Regulating Valve, Strainer Unions, Controlling Valves having Solid China Handles, Shampoo, 24 x 30 inch Oval Curtain Ring, White Duck Curtain and supply pipes to floor.

Supply.	Discharge.	Fig. G1859.c	Fig. G1859d.
½ inch	½ inch	$88.00	$93.00
½ inch	¾ inch	98.00	102.50
¾ inch	¾ inch	114.50	120.00

SHOWER

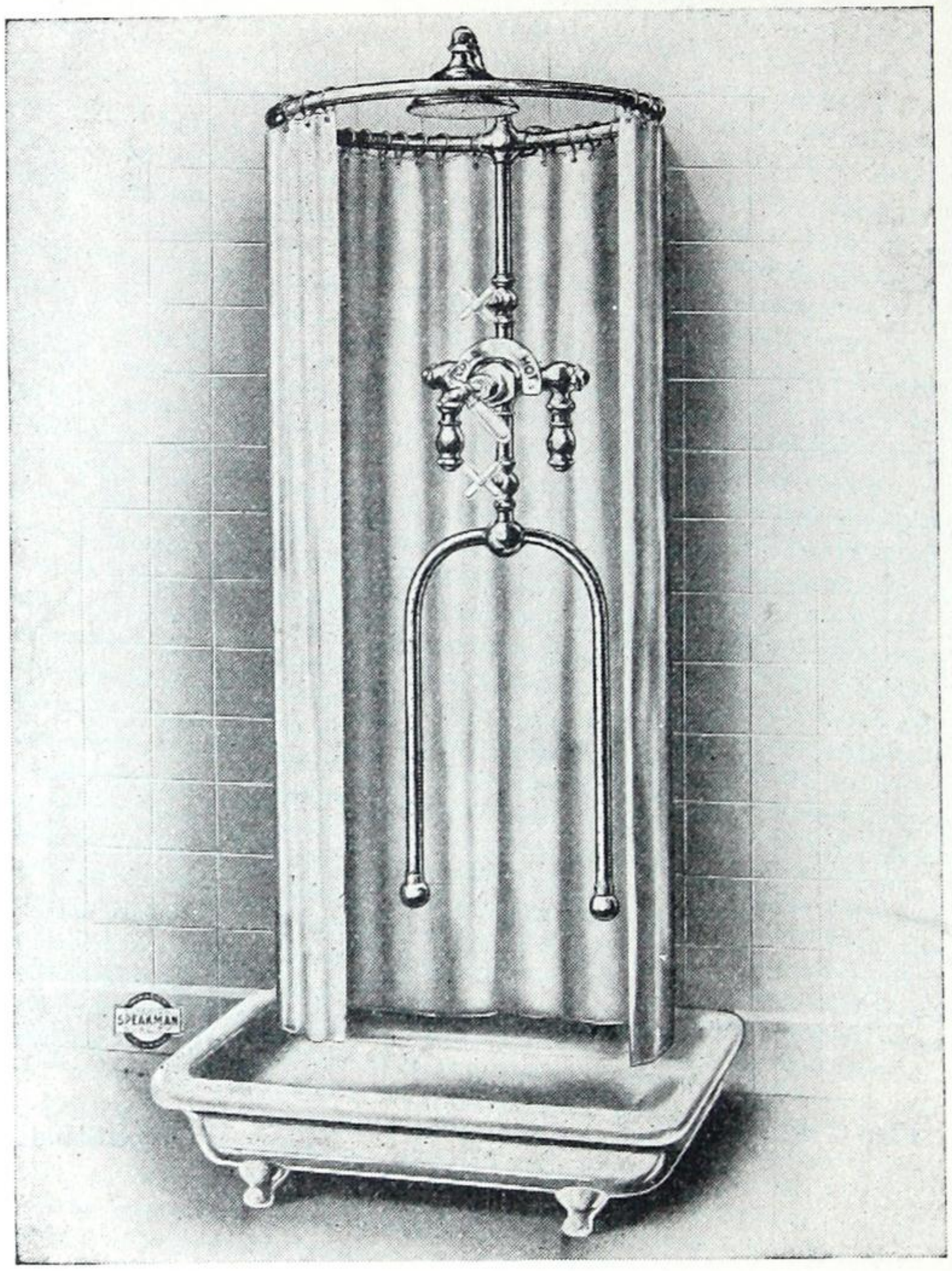


Fig. G1860a

Speakman Combination Shower and Needle Bath fitted with No. 1 Non-Scalding Regulating Valve, additional Controlling Valves having Solid China Handles, 24 x 30 inch Oval Curtain Ring and White Duck Curtain. Size of inlets, ½-inch..... $106.00

This price does not include the Receptor or Strainer. Extra long Curtain for Receptor always sent with the Shower. This Shower can also be used over regular bath tub. For price of Receptors, see page 211.

SHOWER

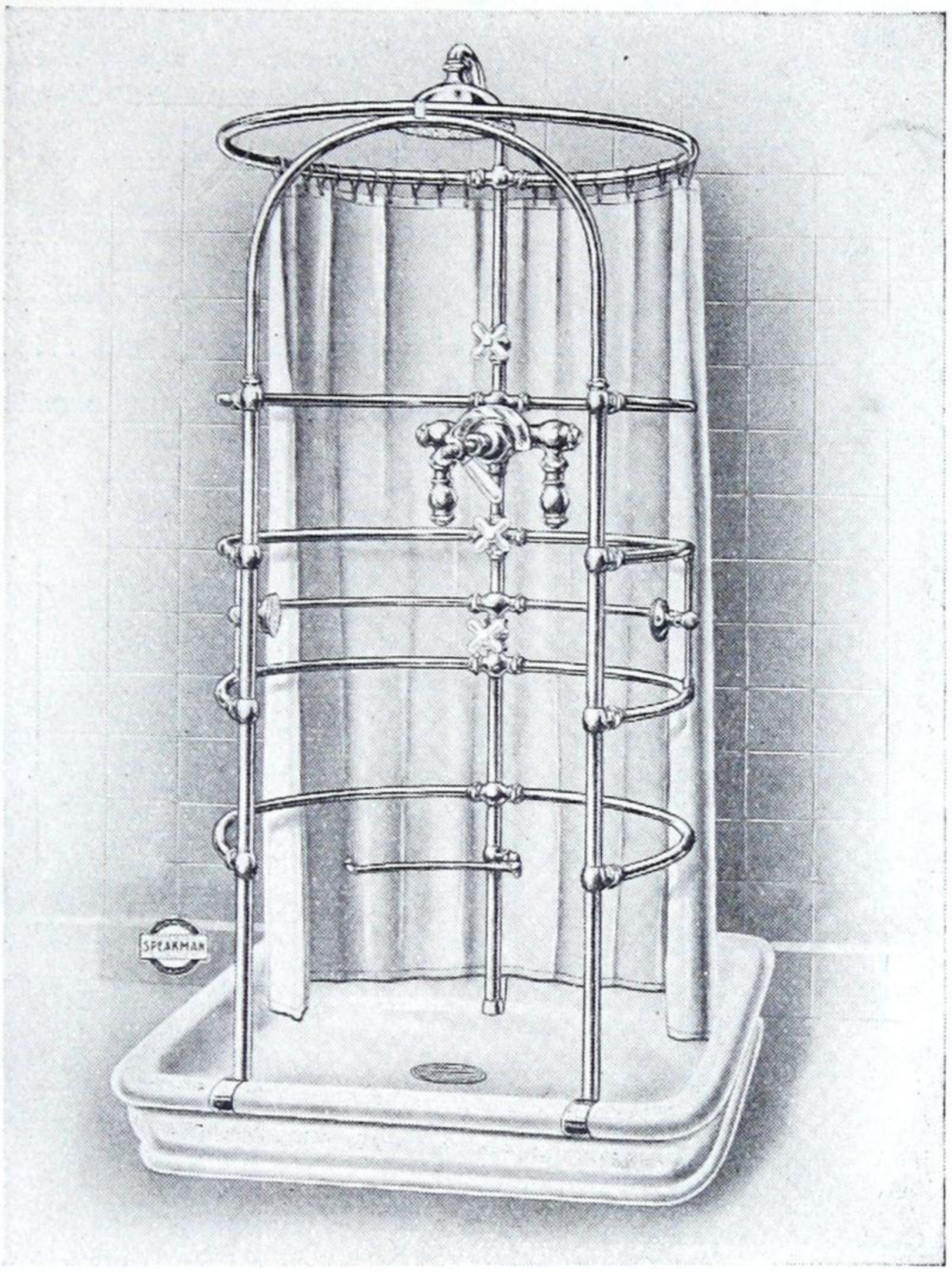


Fig. G1860b

Speakman Needle Bath with No. 1 Non-Scalding Regulating Valve, additional Controlling Valves having Solid China Handles, Liver Sprays, Bidet and White Duck Curtain.

Size of inlets, ¾-inch..... $340.00

Price does not include Receptor or Strainer.

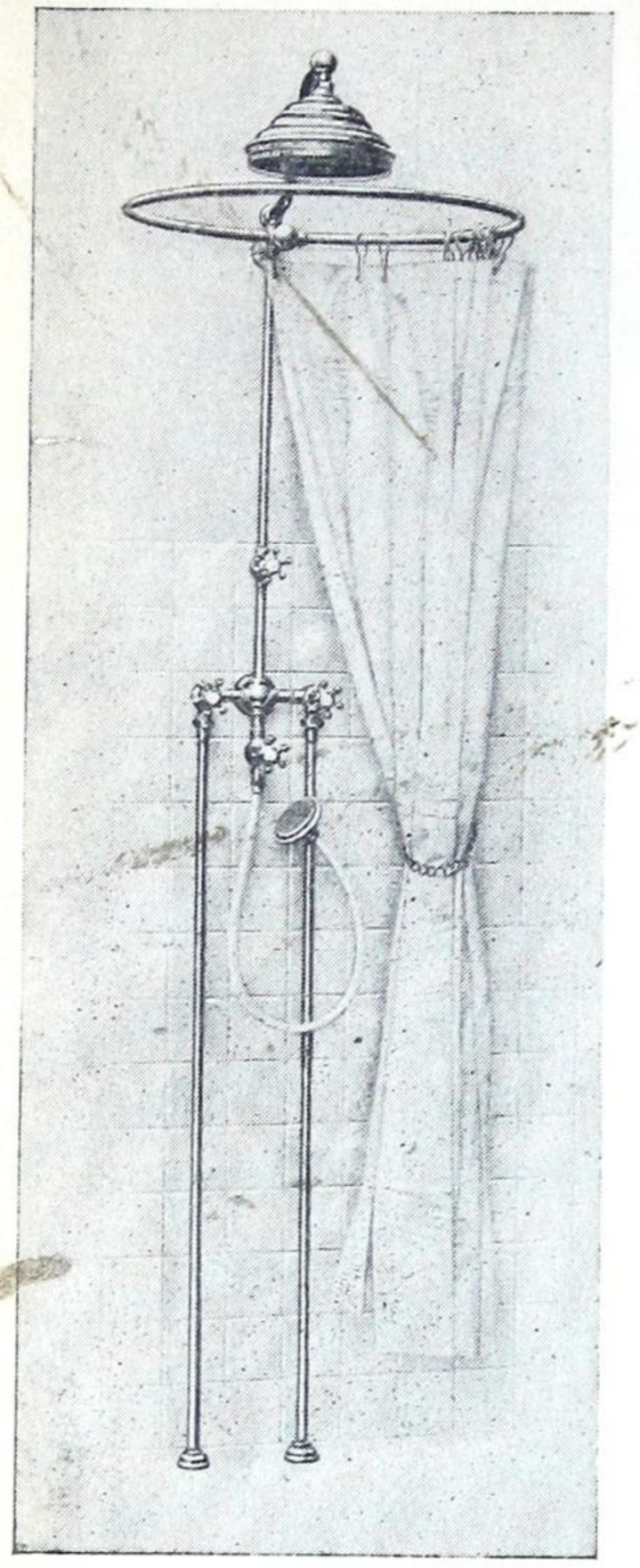
Deduct for Liver Sprays..... 24.00

Deduct for Bidet..... 24.00

If Floor Flanges are desired instead of Receptor Hooks, so state in ordering and deduct $14.50

For Porcelain Receptor 42″ x 42″ with Outlet Strainer..... $115.00

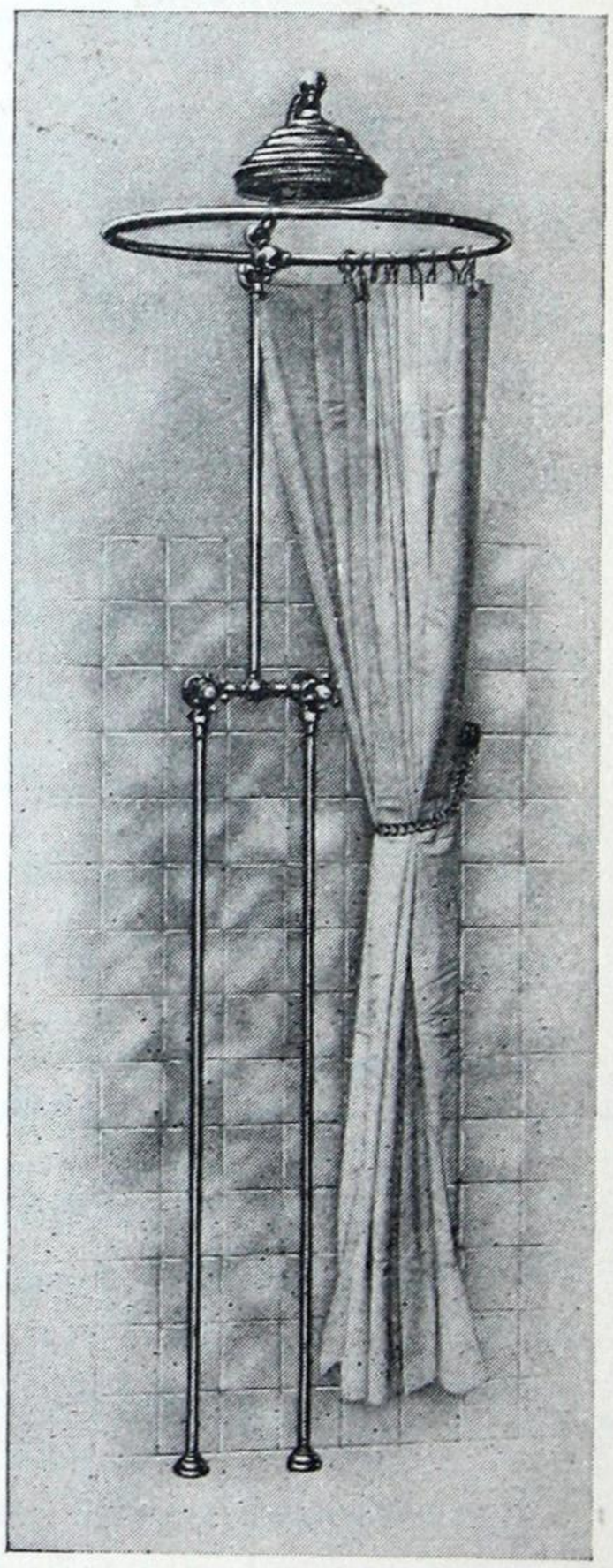
SHOWERS



SPECIFICATION:

Plate G1861a.—Robertson's Nickel-plated Brass Shower with tubular shower head, 24"x30" oval curtain ring, white duck curtain and hooks, wall curtain hook, Shampoo with Spray and Rubber Tube.

List price, as described	$41.00
If with nickel-plated cast brass shower head with removable face, add	2.00
If with cross arm, 14 arms, add	5.00
If with adjustable head, add	4.00
If without curtain ring and curtain, deduct	9.50



SPECIFICATION:

Plate G1861b.—Robertson's Nickel-Plated Brass Shower, with tubular shower head, 24" x 30" oval curtain ring, white duck curtain and hooks and wall curtain hook.

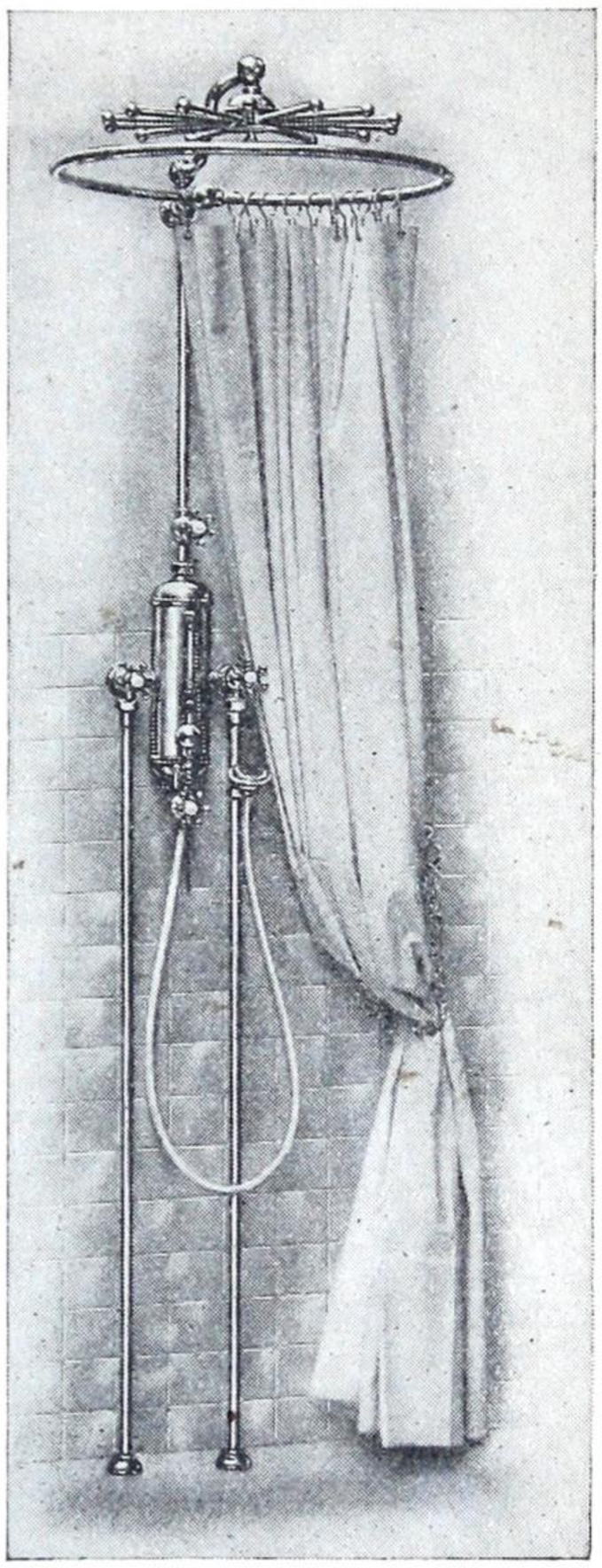
List price, as described	$37.50
If with nickel-plated cast brass shower head with removable face, add	2.00
If with cross arm head, 14 arms, add	5.00
If with adjustable head, add	4.00
If without curtain ring and curtain, deduct	9.50

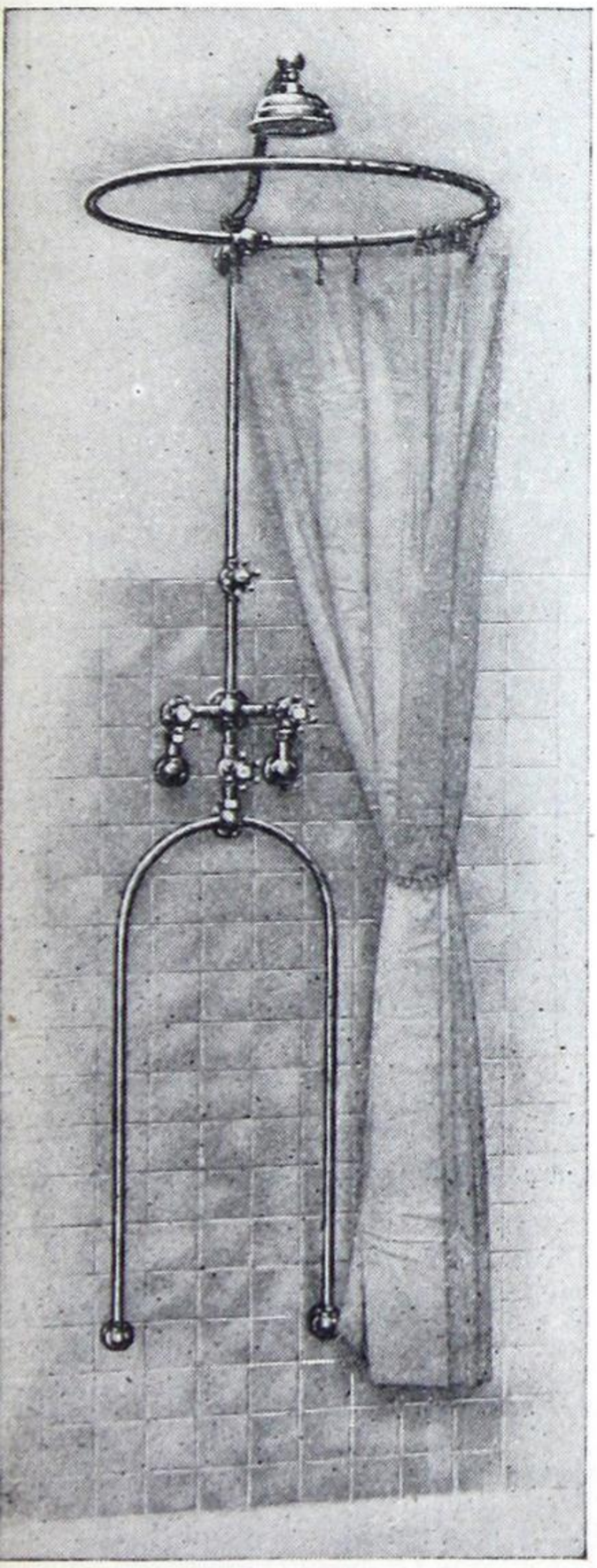
SHOWERS

SPECIFICATION:

Plate G1861c.—Robertson's Nickel-plated Brass Shower nd Shampoo, with Mixing Chamber, Thermometer, Kingdon ower head, 24" x 30" oval curtain ring, white duck curtain nd hooks, rubber-bound shampoo spray and tube, and wall urtain hook.

ist price as described	$62.50
with nickel-plated cast brass head with removable face, deduct	5.00
with tubular head, deduct	6.50
without curtain ring and curtain, deduct	9.50



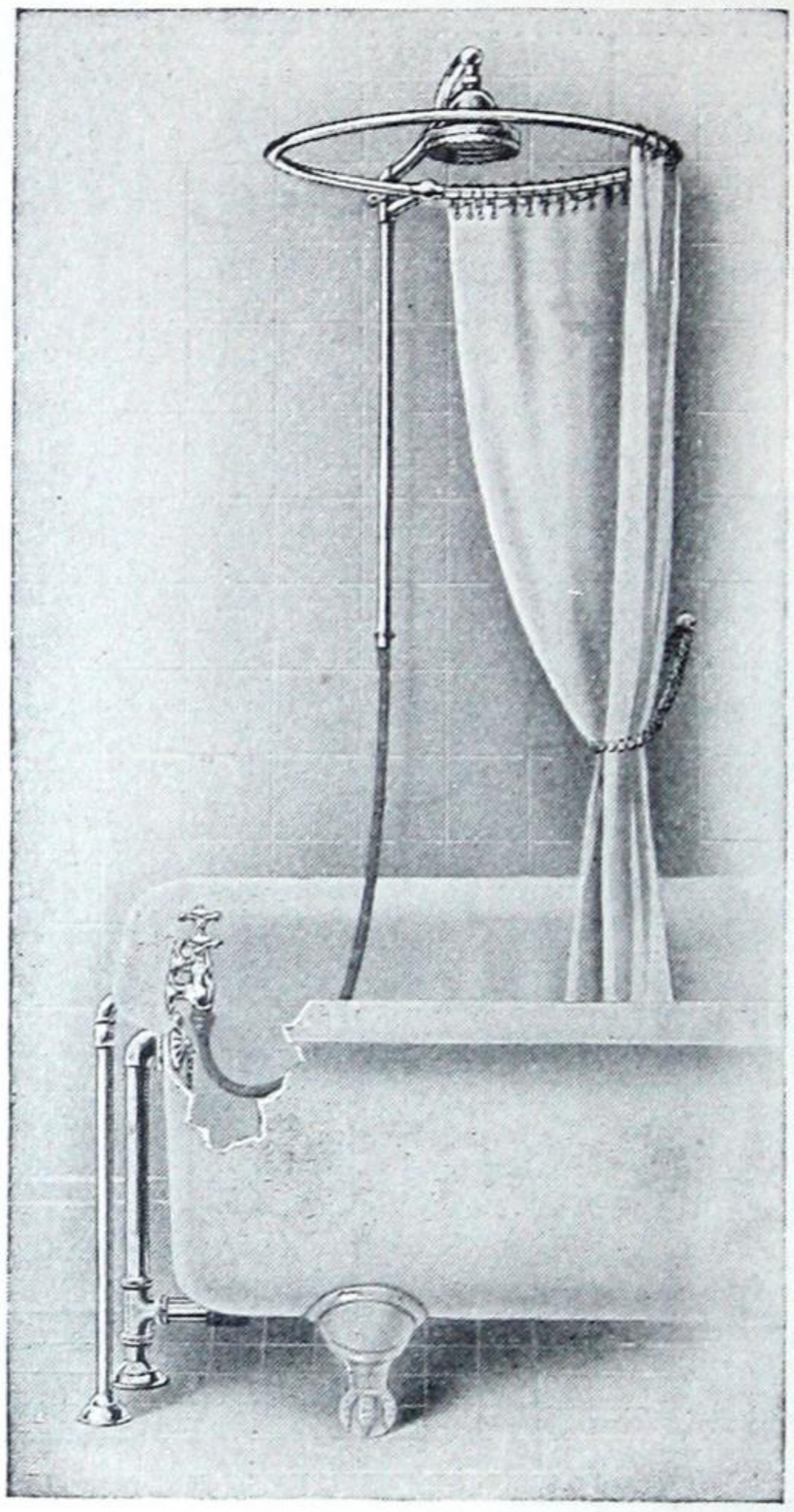


SPECIFICATION:

Plate G1861d.—Robertson's Nickel-plated Brass Shower and Hip Spray, with cast brass head with removable face, 24" x 30" oval curtain ring, white duck curtain and hooks and wall curtain hook.

List price as described	$56.00
If with tubular head, deduct	2.00
If without ring and curtain, deduct	9.50

SHOWER

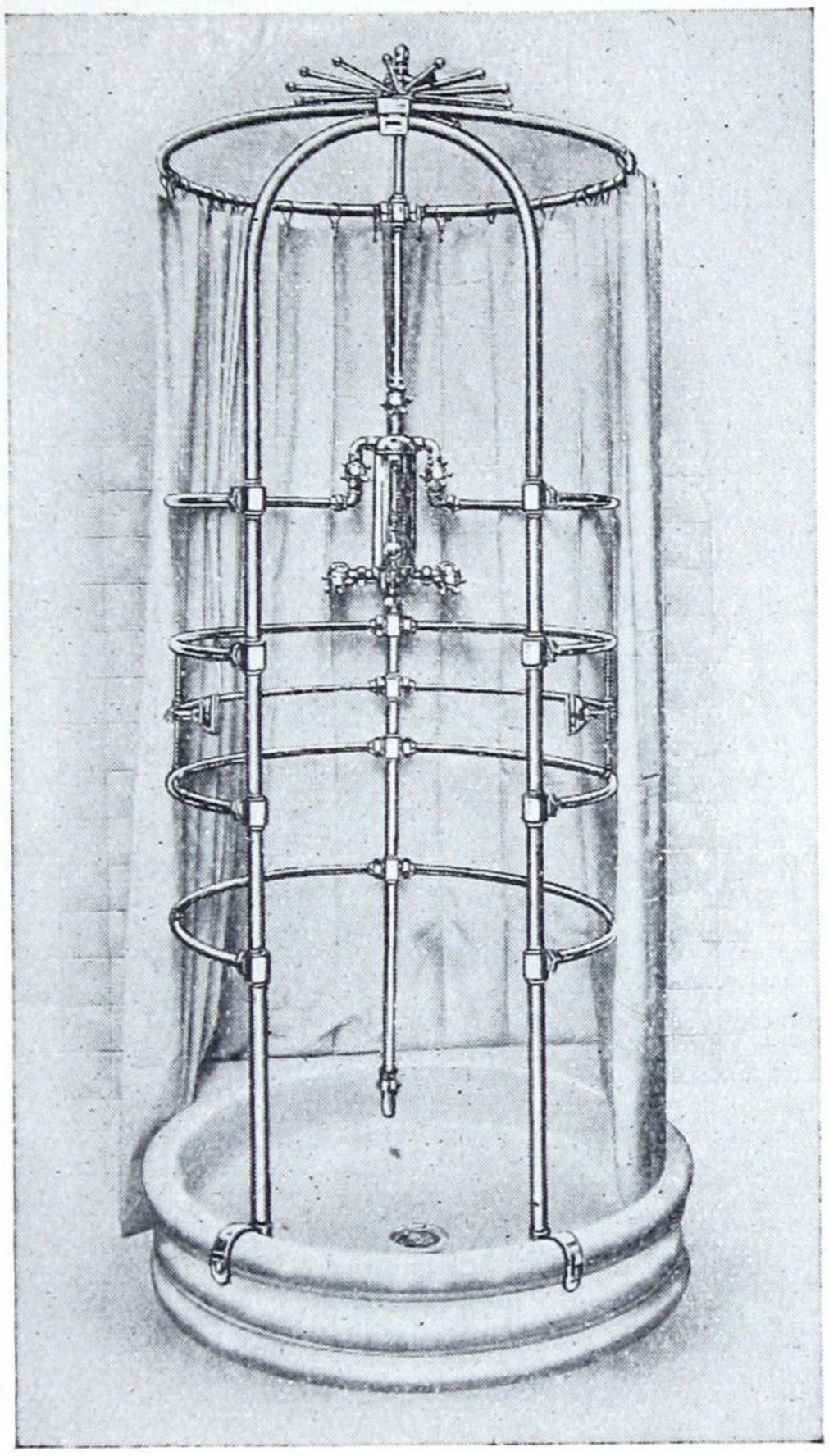


SPECIFICATION:

Plate G1862.—Robertson's Nickel-Plated Brass Portable Shower, with white duck curtain, curtain hooks, wall hook and chain and rubber tube.

List price as described..... $19.50

SHOWER



SPECIFICATION:

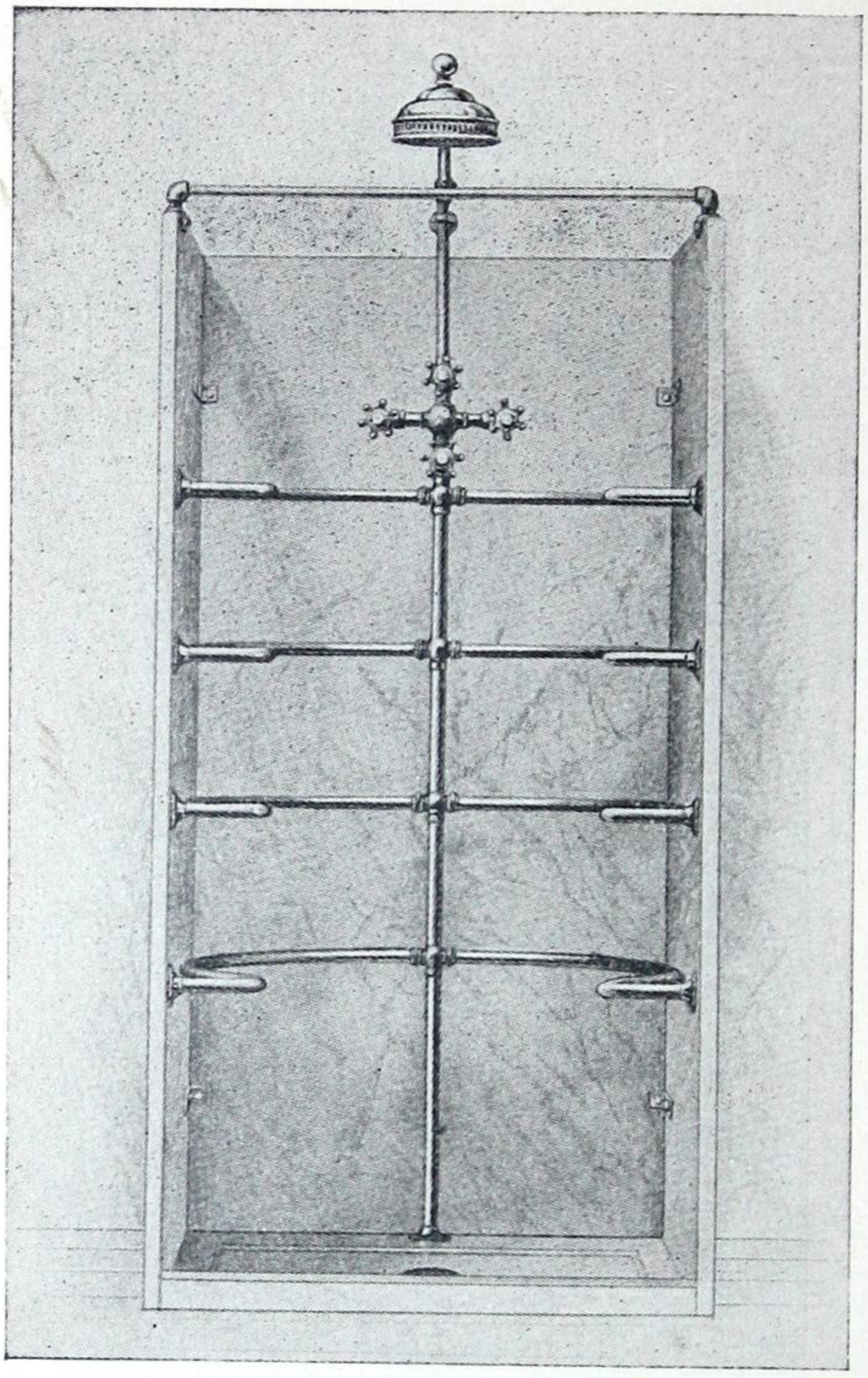
Plate G1863.—Robertson's Nickel-Plated Brass Needle and Shower Bath, with mixing chamber and thermometer, Kingdon shower head, white duck curtains and hooks.

List price as described (without receptor)..... $211.00

If with tubular shower head, deduct..... 6.50

Porcelain Receptor—Dimensions along wall 36 inches, outside diameter, 42 inches. Depth inside, 7½ inches. Price with outlet strainer..... $115.00

SHOWER



SPECIFICATION:

Plate G1864a.—Robertson's Nickel-Plated Brass Needle and Shower Bath, with Tubular Shower Head.

List price as described..... $77.00

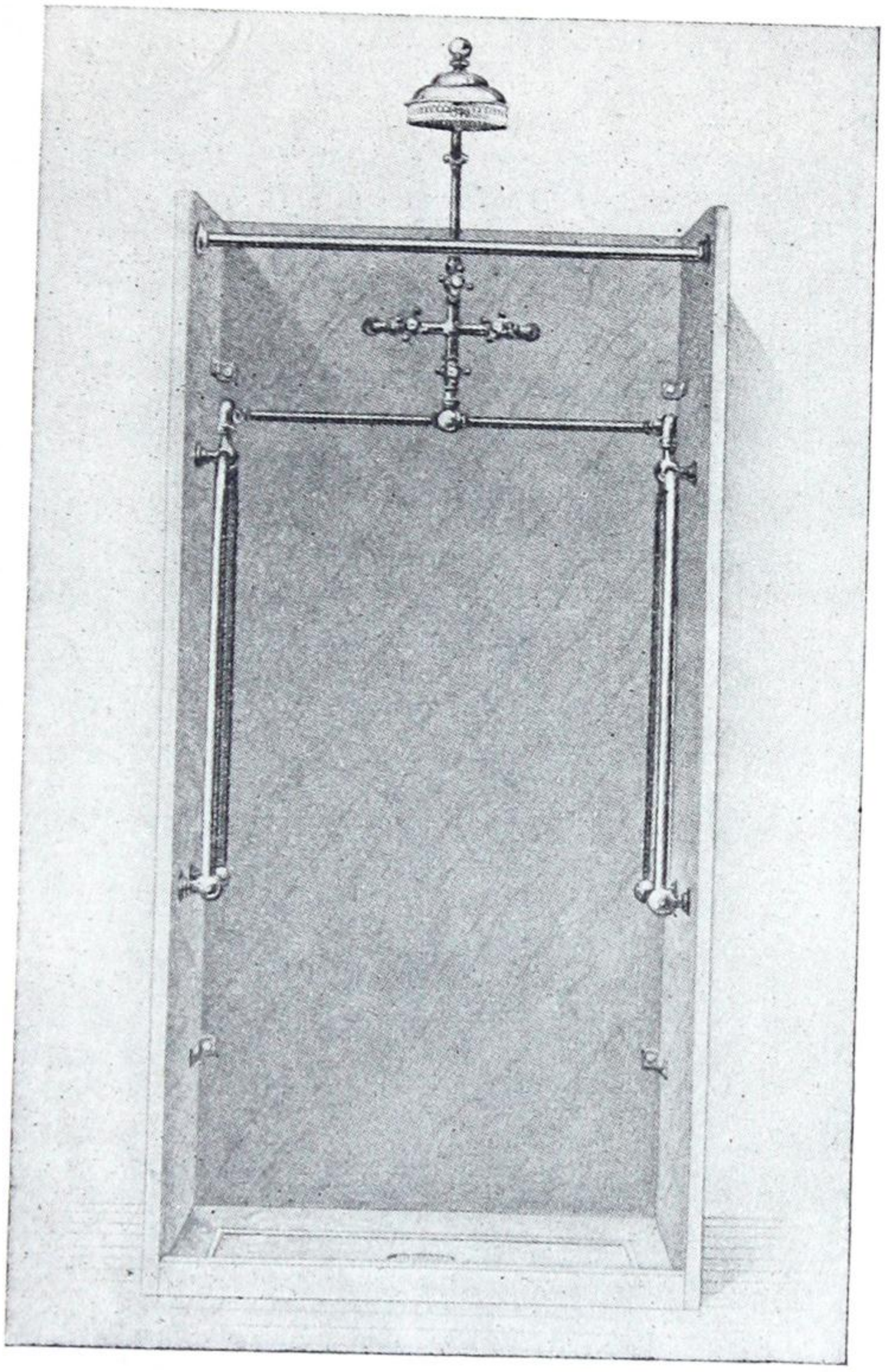
For Curtain Rod with rings, add..... 5.00

For Duck Curtain, add..... 7.00

Dimensions of Stall: Height, 6 ft. 6 ins.; width, 3 ft. 2 ins.; depth, 3 ft. 2 ins.; back and sides, 1¼" thick, base, 2" thick.

Prices on Marble or Slate on application.

SHOWER



SPECIFICATION:

Plate G1864b.—Robertson's Nickel-Plated Brass Needle and Shower Bath, with Tubular Shower Head.

List price as described	$70.00
For Curtain Rod with Rings, add	4.00
For Duck Curtain, add	7.00

Dimensions of stall are same as Plate G1864a.

Plate G1864a.—Robertson
Head.

List price as describe

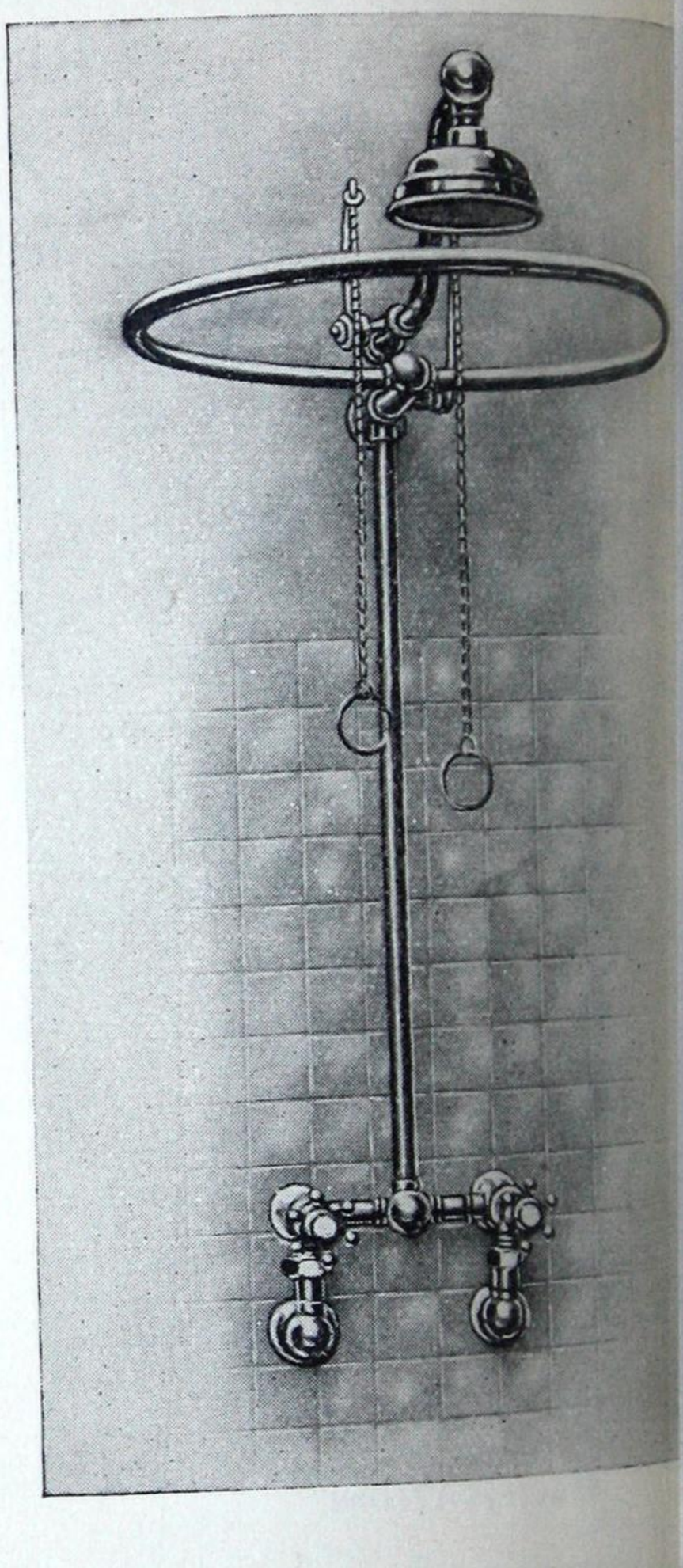
For Curtain Rod wit

For Duck Curtain, a

Dimensions of Stall: Heig
1¼" thick, base, 2" thick.

Price

SHOWER



SPECIFICATION:

Plate G1865a.—Robertson's Nickel-Plated Brass Shower with H
Cast Brass Shower Head and Needle Spray Ring with Separate Self-C

List price as described, $33.00.

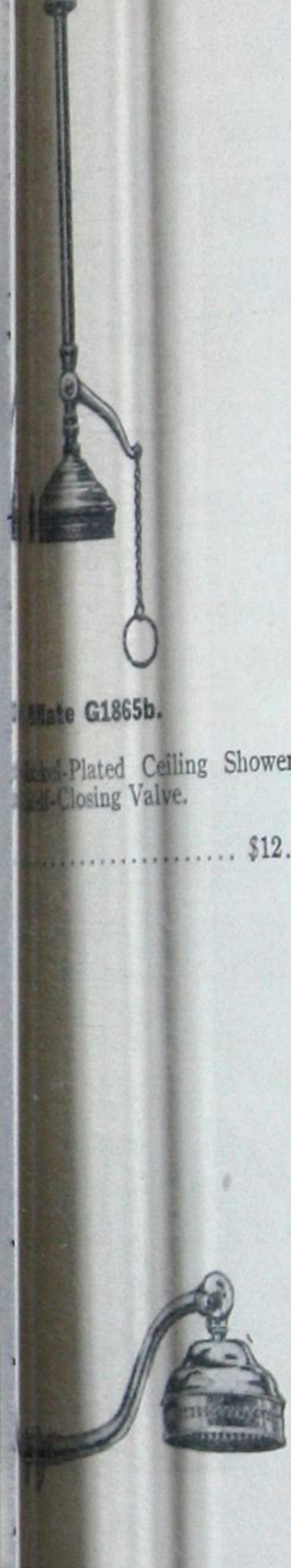


Plate G1865b.

Nickel-Plated Ceiling Shower
Self-Closing Valve.

..... $12.



Plate G1865d.

Nickel-Plated Wall Shower,
Self-Closing Valve.

..... $14

SHOWERS



Plate G1865b.

Robertson's Nickel-Plated Ceiling Shower, with Self-Closing Valve.

Each..... $12.50



Plate G1865c.

Robertson's Nickel-Plated Wall Shower Ring, with Self-Closing Valve.

Each.....$20.00

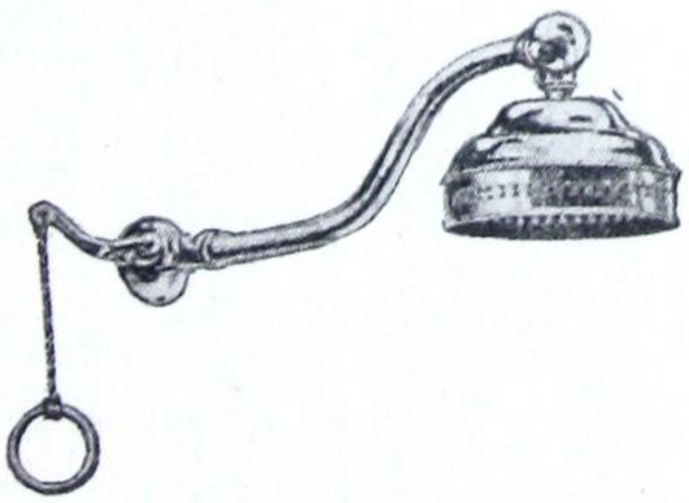


Plate G1865d.

Robertson's Nickel-Plated Wall Shower, with Self-Closing Valve.

Each..... $14.00

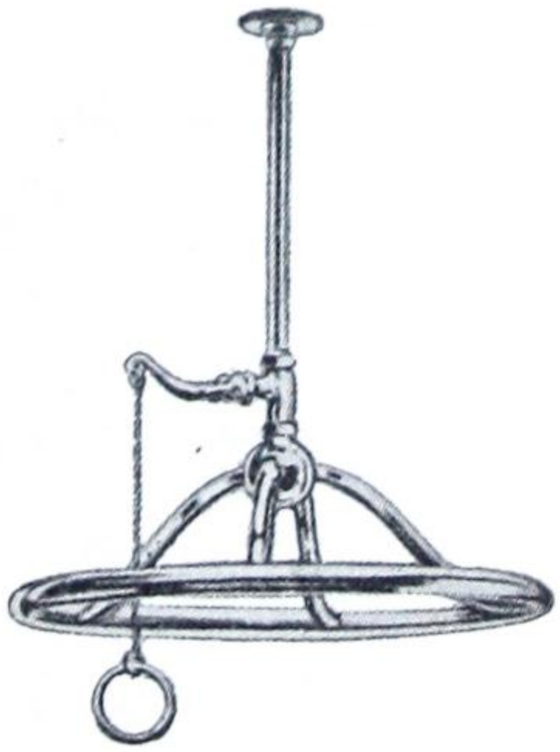
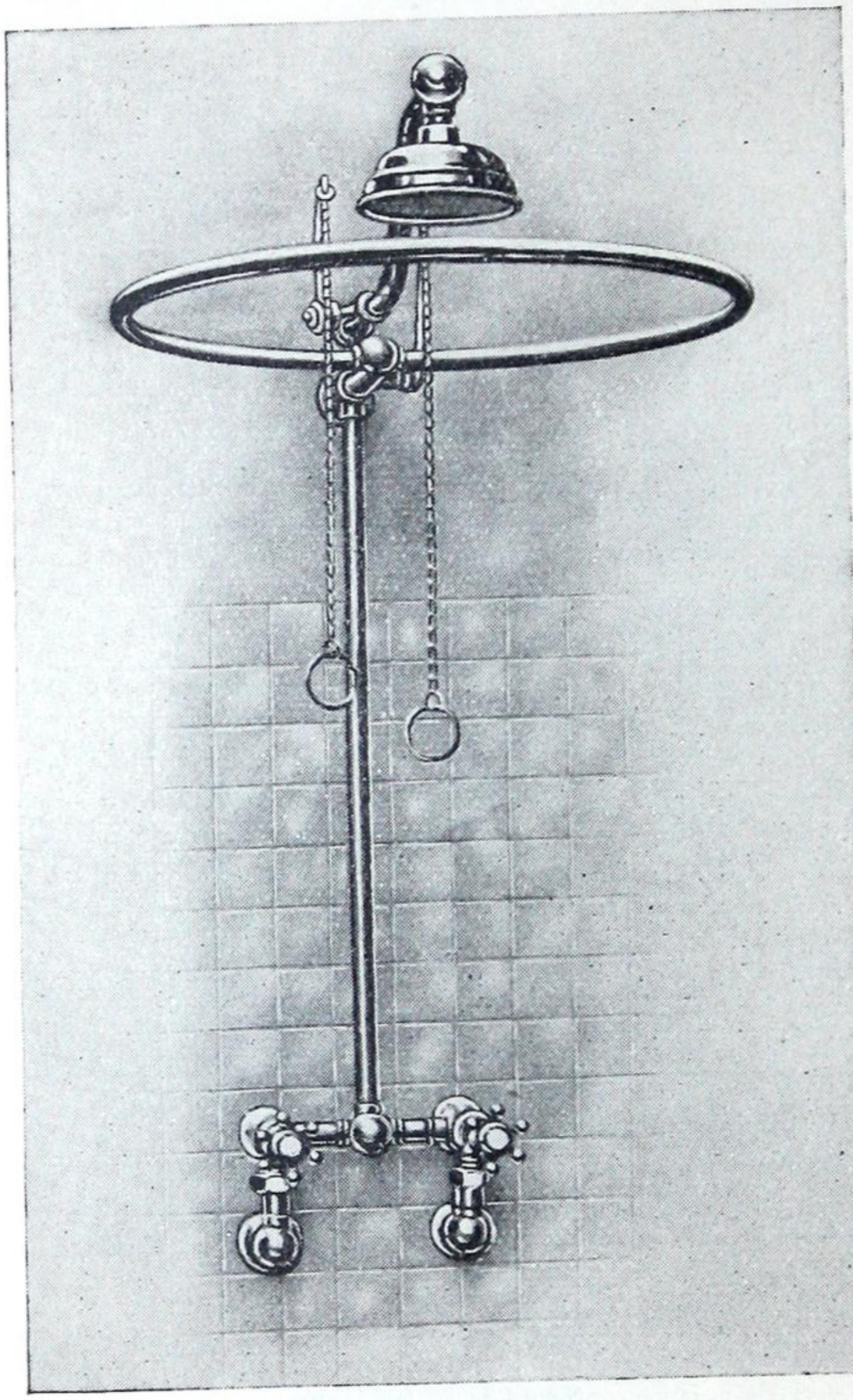


Plate G1865e.

Robertson's Nickel-Plated Ceiling Shower Ring, with Self-Closing Valve.

Each..... $20.00

SHOWER



SPECIFICATION:

Plate G1865a.—Robertson's Nickel-Plated Brass Shower with Hot and Cold Water Supply Valves Cast Brass Shower Head and Needle Spray Ring with Separate Self-Closing Valves on each.

List price as described, $33.00.

SHOWERS



Plate G1865b.

Robertson's Nickel-Plated Ceiling Shower, with Self-Closing Valve.

Each..... $12.50

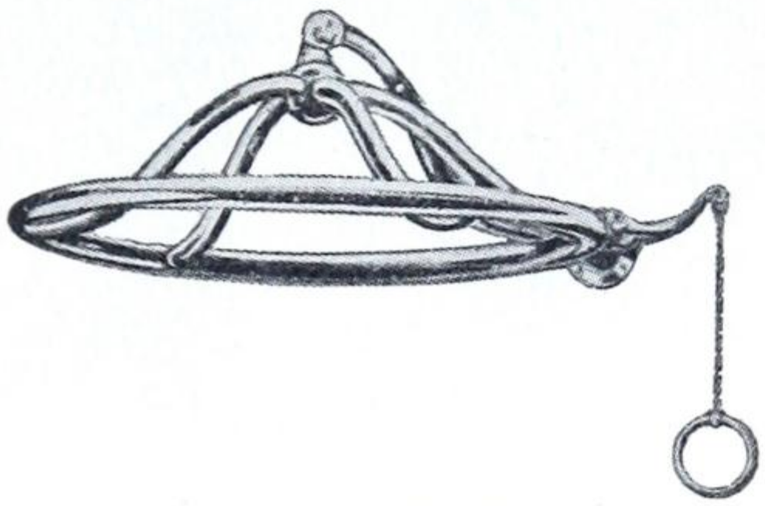


Plate G1865c.

Robertson's Nickel-Plated Wall Shower Ring, with Self-Closing Valve.

Each.....$20.00

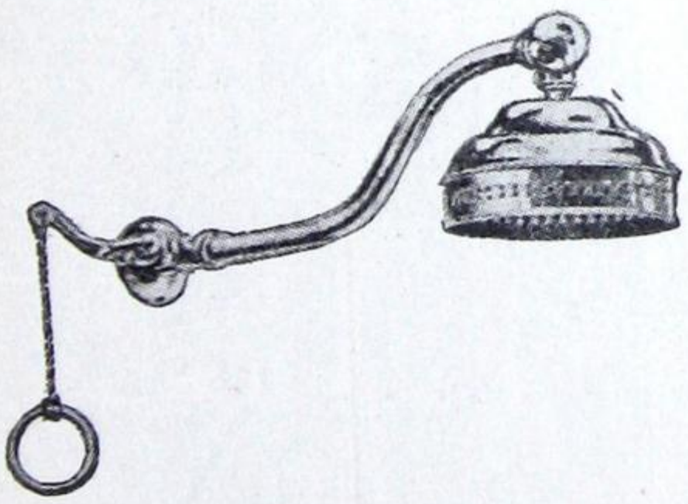


Plate G1865d.

Robertson's Nickel-Plated Wall Shower, with Self-Closing Valve.

Each..... $14.00

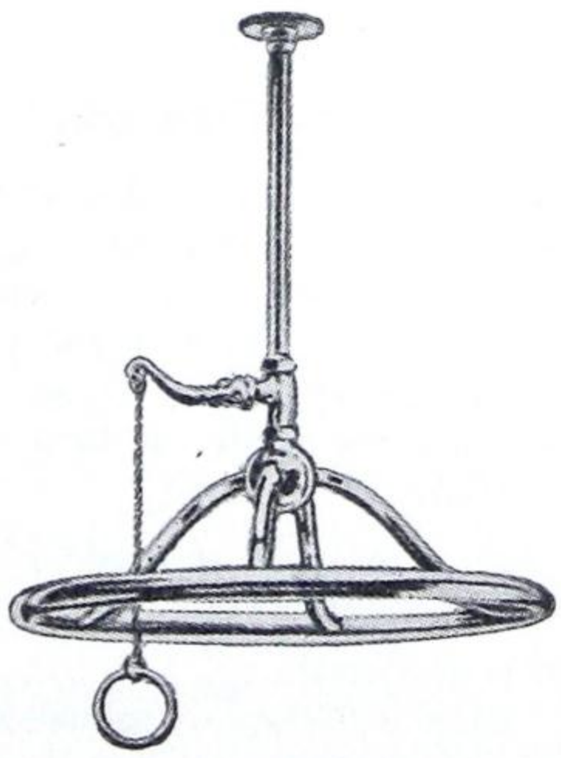


Plate G1865e.

Robertson's Nickel-Plated Ceiling Shower Ring, with Self-Closing Valve.

Each..... $20.00

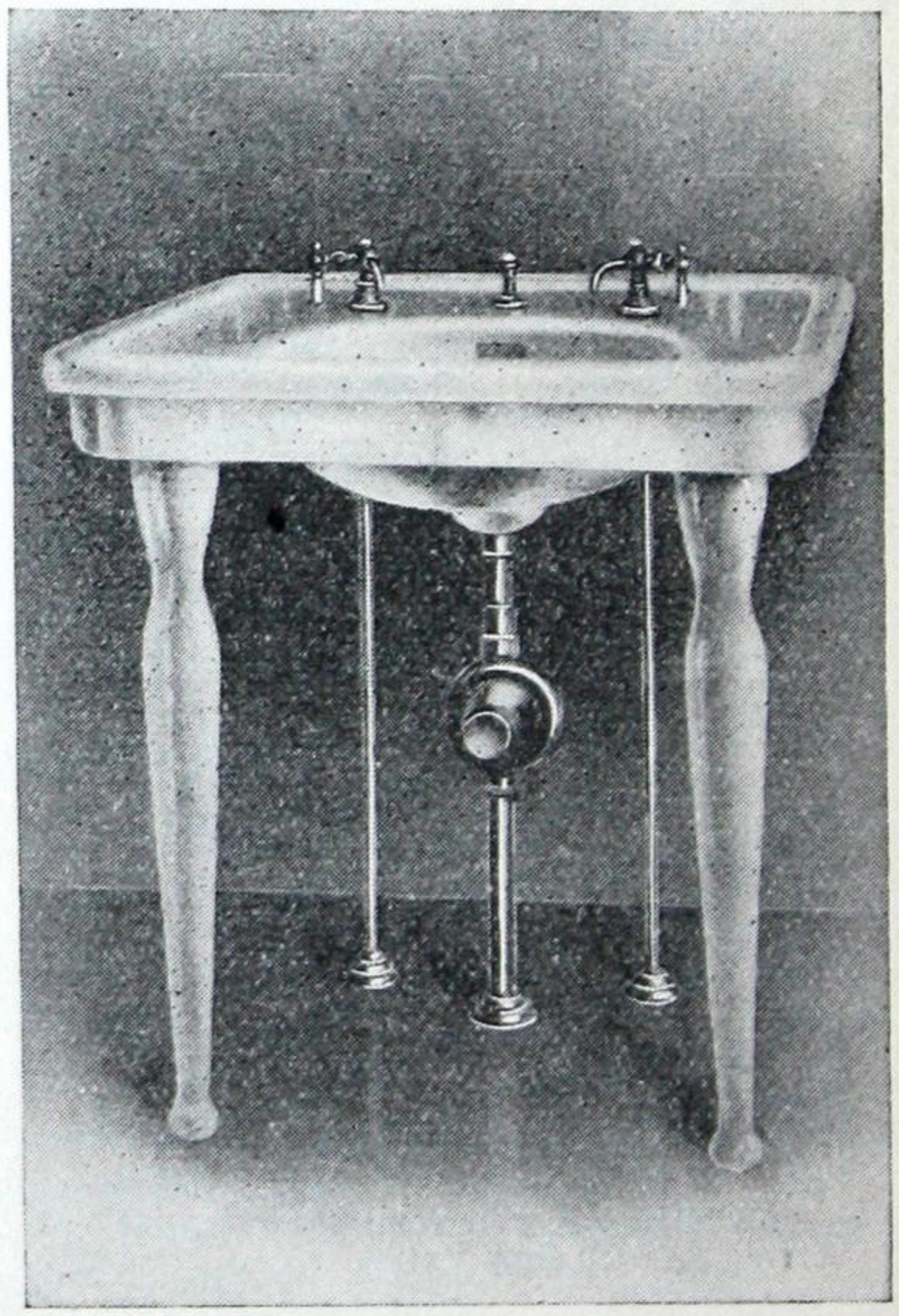


SPECIFICATION:

Plate G1866a.—The "Kopata" White Vitreous China Lavatory, with square pedestal, nickel-plated Torrance pattern Fuller basin cocks with china handles and indexes, nickel-plated basin supply pipes to wall, "Kingdon" nickel-plated pop-up waste and 1¼-inch nickel-plated "Whirlpool" P trap to wall.

Size—Lavatory slab 26″ x 22″, D shaped bowl 12½″ x 16½″.

List price as described	$64.30
If with "Kingdon" No. 1 compression cocks, deduct	2.00
If with shut-off valves on supplies, add to list	2.35



SPECIFICATION:

Plate G1866b.—The "Kolarda" White Vitreous China Lavatory, with two china legs and nickel-plated wall supports, nickel-plated "Jaroco" pattern Fuller basin cocks with china handles and indexes, nickel-plated supply pipes, nickel-plated "Kingdon" pop-up waste, 1¼-inch nickel-plated "Sanitas" trap.

Size of lavatory slab 30″ x 24″.
" bowl 12½″ x 16½″.

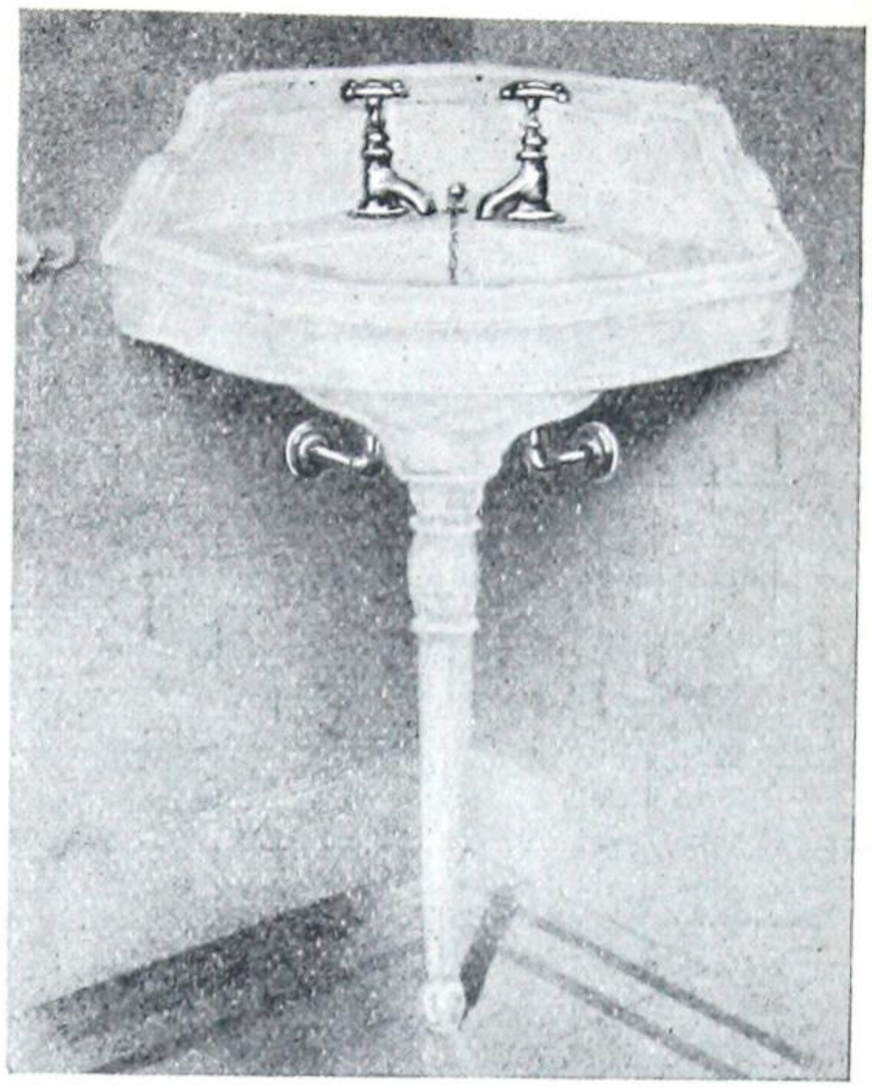
List price as described	$69.75
If with "Kingdon" No. 1 compression cocks, deduct	1.25
If with 1¼-inch "Whirlpool" trap, add to list	1.00
If with shut-up valves on supplies, add to list	2.35

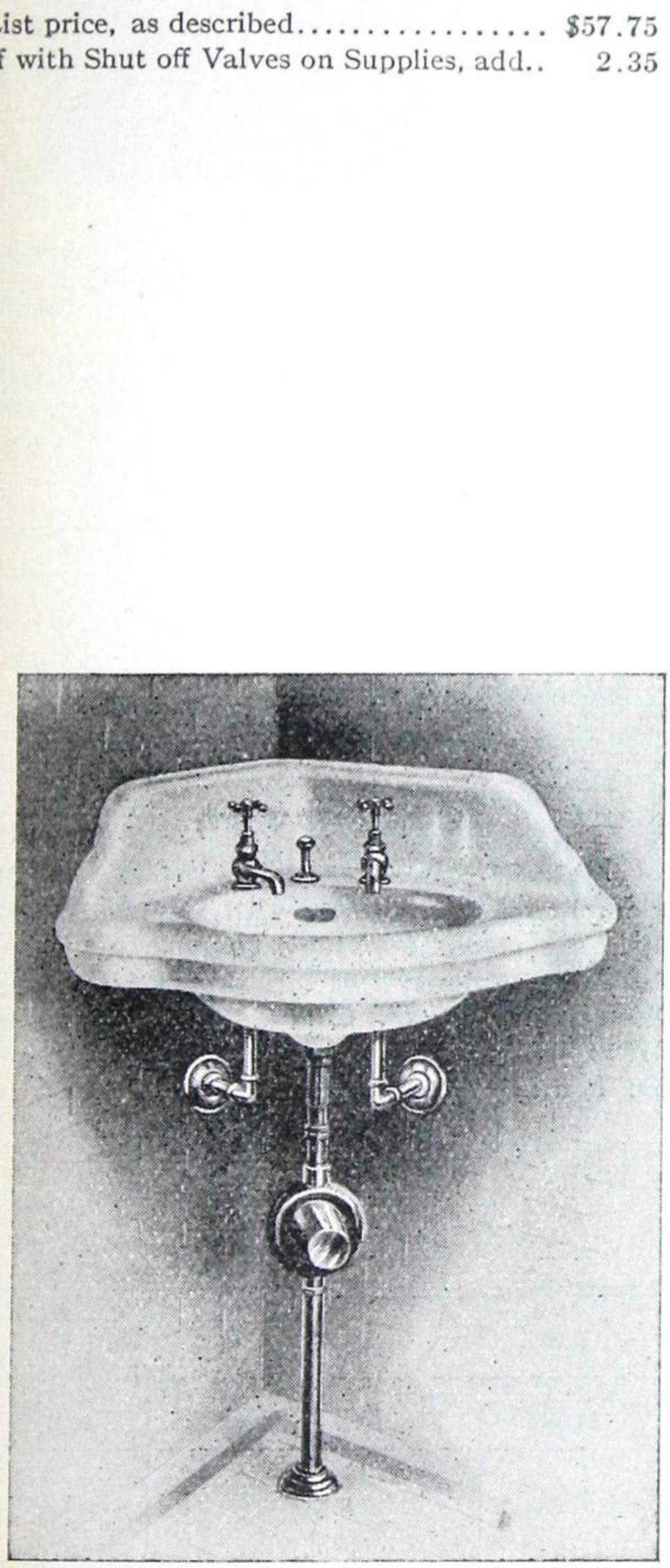
SPECIFICATION:

Plate G1867a.—The "Kadenza" White Vitreous China Corner Lavatory with China Leg and Wall Supports, nickel-plated "Kingdon" No. 1 Compression indexed Basin Cocks, Nickel-Plated Supply Pipes, Nickel-Plated Chain Stay and Chain and 1¼ inch Nickel-Plated "Whirlpool" Trap to wall.

Size of Lavatory, 19½" x 19½".
Size of Bowl, 12½" x 15½".

List price, as described.....	$57.75
If with Shut off Valves on Supplies, add..	2.35

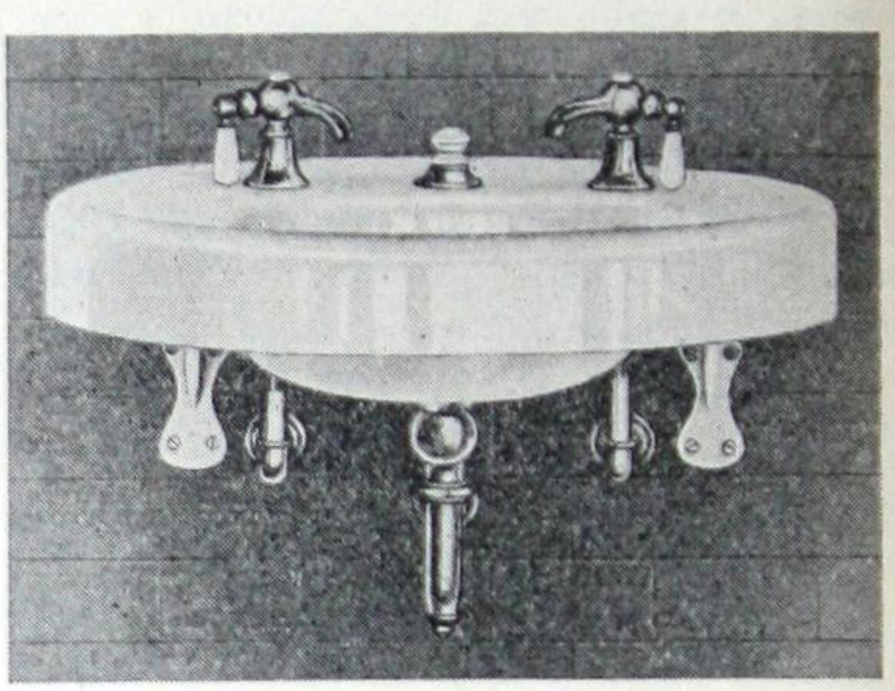




SPECIFICATION:

Plate G1867b.—The "Koroco" White Vitreous China Corner Lavatory, with wall supports nickel-plated "Kingdon" No. 1 compression indexed basin cocks, nickel-plated supply pipes, "Kingdon" pop-up waste and 1¼-inch nickel-plated Sanitas trap.

Size of lavatory	16½" x 16½"	
" " "	19½" x 19½"	
" " "	19½" x 19½"	
" " "	24" x 24"	
Size of bowl	11½" x 14½"	
" " "	12" x 15"	
" " "	12½" x 16½"	
List price as described	16½" size.....	$40.00
" " "	19½" "	55.00
" " "	24" "	77.50
If with 1¼-in., nickel-plated "Whirlpool" trap, add.....		1.00
If with shut-off valves on supplies, add...		2.35



SPECIFICATION:

Plate G1868a.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, Oval Bowl with Centre Outlet and Apron all in one piece. Supported on Porcelain Enameled Wall Brackets. Enameled all over, with Unique Waste G1379 Torrance Faucets, G1090, ⅜" supply pipes to wall, G1315, and 1¼-inch "P" Trap, G1339.

Size 18" x 27", Size of Bowl 11" x 15".

Price as described..... $38.00

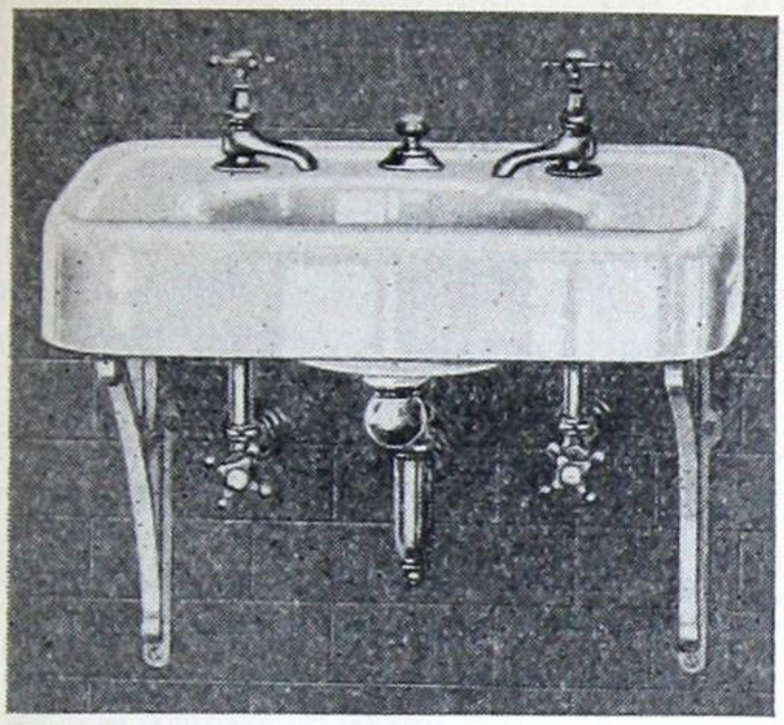
Price, Less all Fittings..... 21.75



SPECIFICATION:

Plate G1868b.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab and Apron all in one piece. Supported on Porcelain Enameled Fluted Column Pedestal. Enameled all over, with Unique Waste, G1379, Torrance Faucets, G1090, with China Bases, ⅜" supply pipes to wall and 1½-inch "P" Trap, G1339.

SIZE.	Bowl.			Price.	
	Size.	Outlet.	Shape.	As Described.	Less Fittings.
18" x 27".....	11" x 15"	Rear	"D" Pattern	$52.50	$32.00
22" x 33".....	13" x 18"	"	"	59.50	39.00

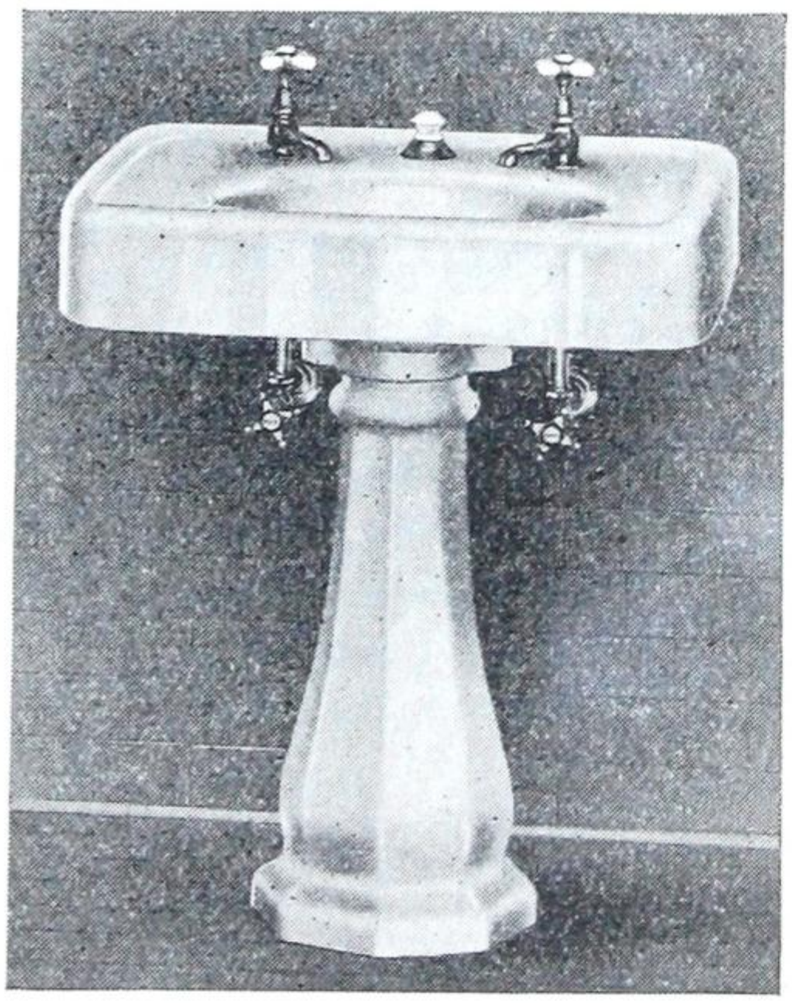


SPECIFICATION:

Plate G1869a.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab and Apron all in one piece. Supported on Porcelain Enameled Wall Brackets. Under side of slab and bowl painted white. With Unique Waste, G1379, No. 1 Kingdon Compression Faucets, G1029b, ⅜" supply pipes to wall with valves, G1316, and 1¼-inch "P" Trap, G1339.

SIZE.	Bowl.			Price.	
	Size.	Outlet.	Shape.	As Described.	Less Fittings.
20" x 24"	12" x 15"	Centre	Oval	$34.00	$16.50
20" x 26"	12" x 15"	"	"	35.50	18.00
22" x 27"	13" x 17"	"	"	39.50	22.00

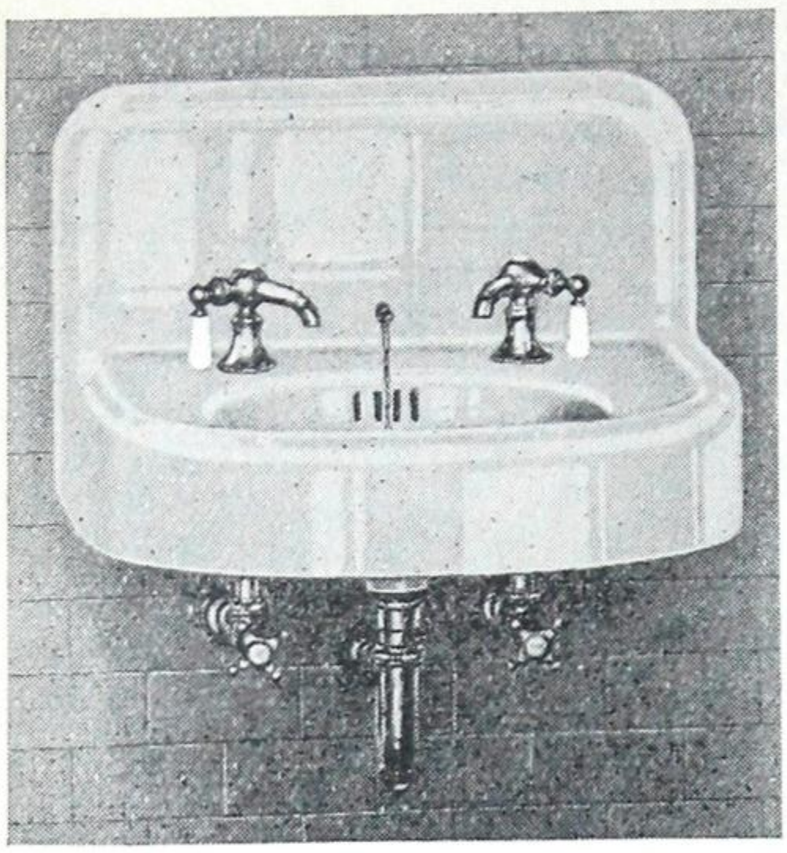
If enameled all over, add $2.00.



SPECIFICATION:

Plate G1869b.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab and Apron all in one piece. Supported on Porcelain Enameled Pedestal. Enameled all over only, with Unique Waste G1379, No. 1 Kingdon Compression Faucets, G1029b, with china top 4 arm handles, ⅜" supply pipes to wall with valves, G1316, and 1½-inch "P" Trap, G1339.

SIZE.	Bowl.			Price.	
	Size.	Outlet.	Shape.	As Described.	Less Fittings.
20" x 24"	12" x 15"	Rear	Oval	$47.00	$28.00
22" x 27"	13" x 17"	"	"	52.00	33.00



SPECIFICATION:

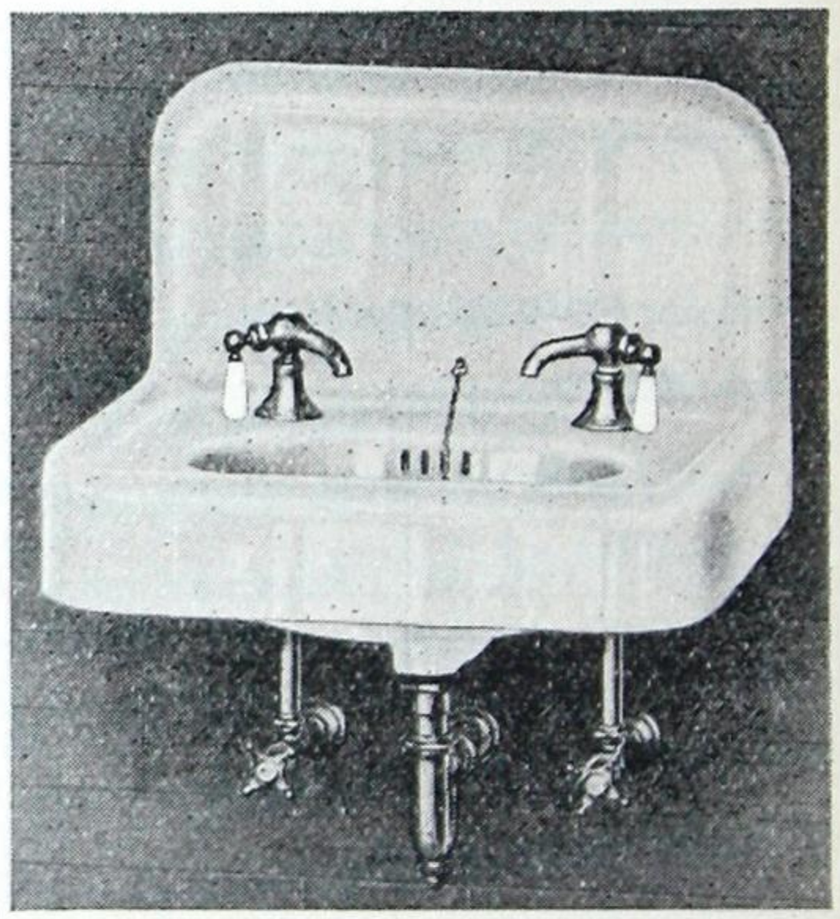
Plate G1870a.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, "D" Pattern Bowl with rear Outlet, Overflow, Back and Apron all in one piece. Supported on concealed Wall Hanger. Under side of Slab and Bowl painted white. With Waste Plug and Rubber Stopper, Chain and Chain Stay, "Torrance" Faucets G1090, ⅜" supply pipes to wall with Valves, G1316 and 1¼" "P" Trap, G1339.

Size 19" x 24". Size of Bowl, 12" x 15".

Height of Back, 10".

Price as described..... $28.00

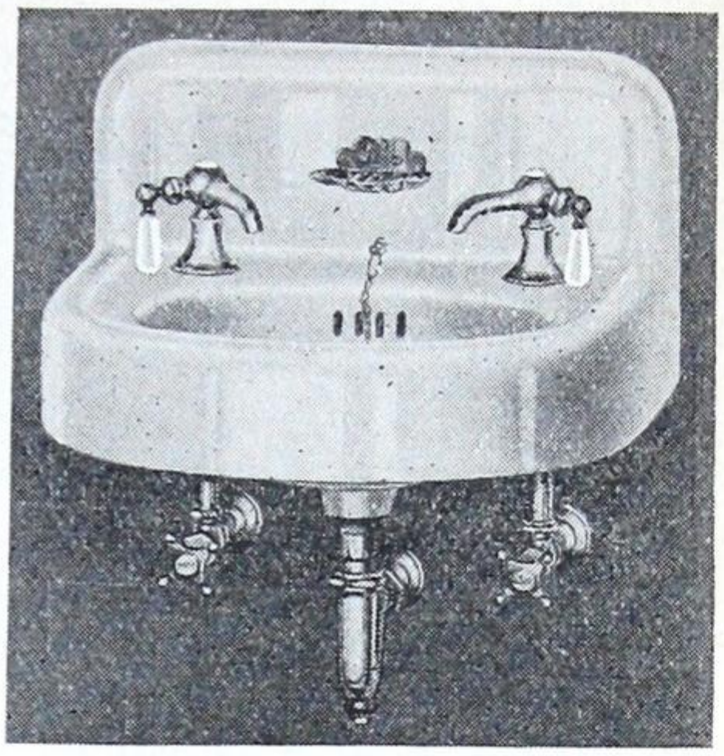
" Less All Fittings..... 13.50



SPECIFICATION:

Plate G1870b.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, Overflow Bowl, Back and Apron all in one piece. Supported on concealed Wall Hanger. Under side of Slab and Bowl painted White. With Waste Plug and Rubber Stopper, Chain and Chain Stay, Torrance Faucets, G1090, ⅜" supply pipes to wall with Valves, G1316, and 1½" "P" Trap, G1339.

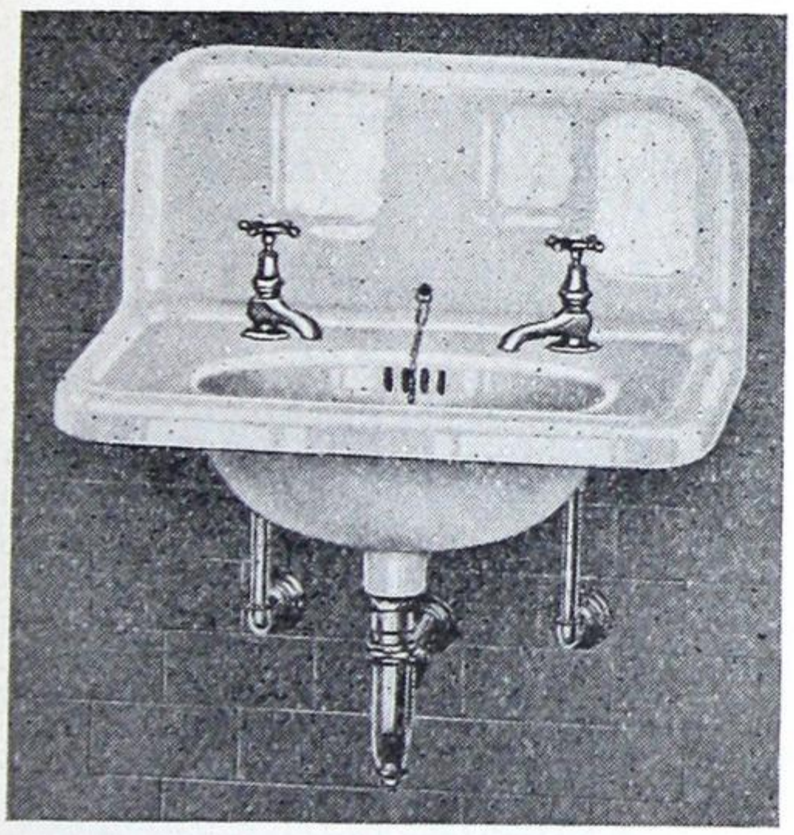
SIZE.	Back.	Bowl.			Price.	
		Size.	Outlet.	Shape.	As Described.	Less Fittings.
18" x 24".....	10"	11½" x 16"	Rear	"D" Pattern	$28.25	$13.00
20" x 24".....	12"	11½" x 16"	"	" "	31.25	16.00
22" x 27".....	12"	12½" x 18"	"	" "	39.25	24.00



SPECIFICATION:

Plate G1870c.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, Overflow Bowl, Back and Apron all in one piece. Supported on concealed Wall Hanger. With Soap Cup attached and under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, "Torrance" Faucets, G1090, ⅜" supply pipes to wall with Valves, G1316, and 1¼" "P" Trap, G1339.

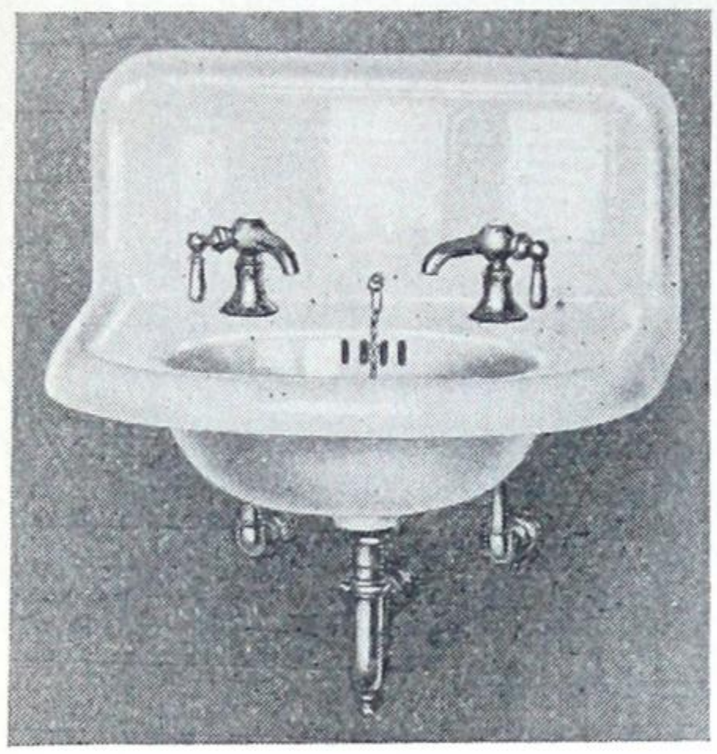
SIZE.	Back.	Bowl.			Price.	
		Size.	Outlet.	Shape.	As Described.	Less Fittings.
17" x 19"	6½"	11" x 14"	Centre Rear	Oval "D" Pattern.	$23.25	$ 8.75
18" x 21"	8"	10¼" x 14½"			24.75	10.25



SPECIFICATION:

Plate G1870d.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, Oval Bowl with Centre Outlet, Overflow and Back all in one piece. Supported on concealed Wall Hanger. Under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, No. 1 Kingdon Compression Faucets. G1029b, ⅜" supply pipes to wall, G1315, and 1½" "P" Trap, G1339.

SIZE.	Back.	Size of Bowl.	Price.	
			As Described.	Less Fittings.
16" x 20"	10"	11" x 14"	$21.75	$10.75
18" x 20"	10"	11" x 14"	22.25	11.25
18" x 24"	10"	12" x 15"	23.75	12.75
20" x 24"	10"	12" x 15"	25.50	14.50
22" x 27"	12"	12" x 15"	29.50	18.50



SPECIFICATION:

Plate G1871a.—Robertson's "Monarch" Porcelain Enameled Lavatory, with Slab, Overflow Bowl and Back all in one piece. Supported on concealed Wall Hanger. Under side of Slab and Bowl painted white. With Waste Plug and Rubber Stopper, Chain and Chain Stay, "Torrance" Faucets, G1090, ⅜" supply pipes to wall, G1315, and 1¼" "P" Trap, G1339.

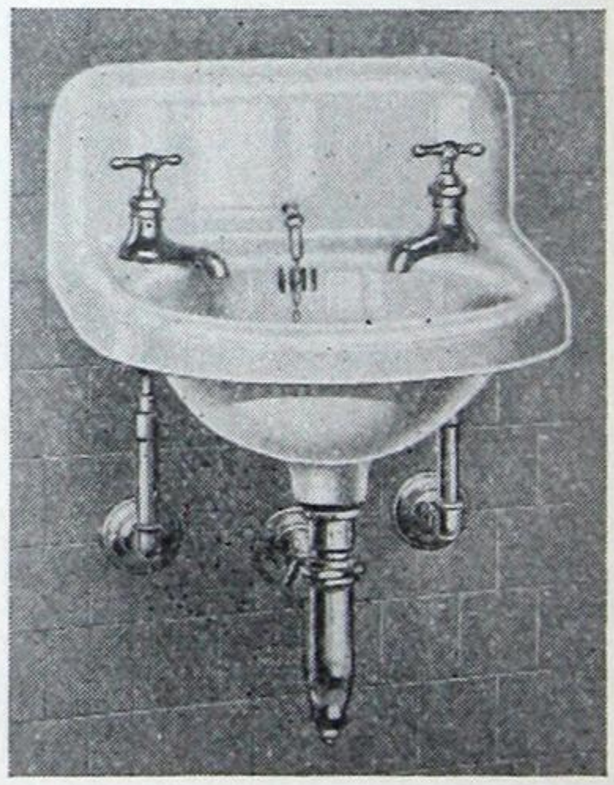
SIZE.	Back.	Bowl.			Price.	
		Size.	Outlet.	Shape.	As Described.	Less Fittings.
16" x 19".....	6"	11" x 14"	Centre	Oval	$19.00	$ 7.00
18" x 21".....	8"	10½" x 14½"	Rear	"D" Pattern	20.50	8.50
19" x 24".....	10"	11½" x 14½"	"	Oval	24.75	12.75

Note.—Sizes 18" x 21" and 16" x 19" have Soap Cup attached.

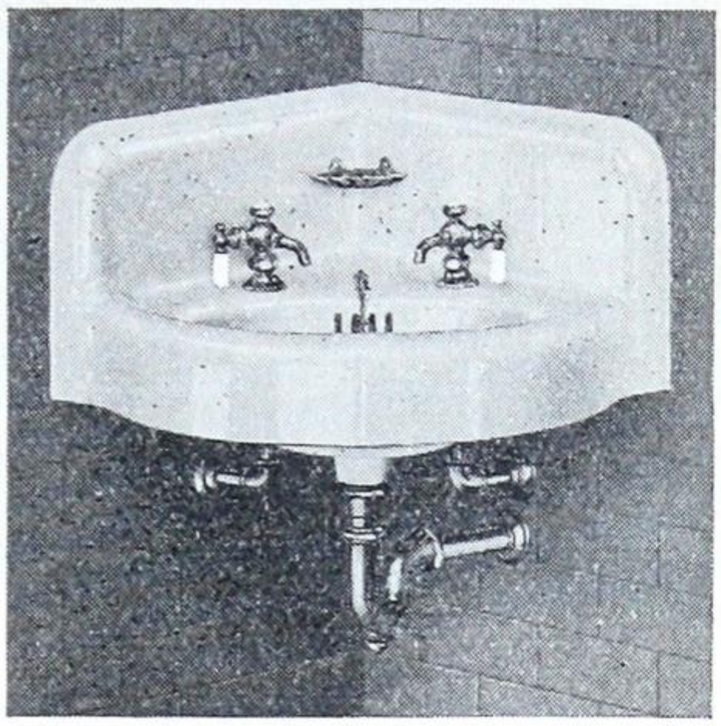
SPECIFICATION:

Plate G1871b.—Robertson's "Monarch" Porcelain Enameled Lavatory with Slab, Round Bowl with Centre Outlet, Overflow and Back all in one piece. Supported on concealed Wall Hanger. Under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, No. 2 Kingdon Compression Faucets, G1029a, ⅜" supply pipes to wall, G1315, and 1¼" "P" Trap, G1339.

Size 14" x 16". Size of Bowl 11", Back 5".



Price as described..... $15.00
" Less Fittings..... 5.25

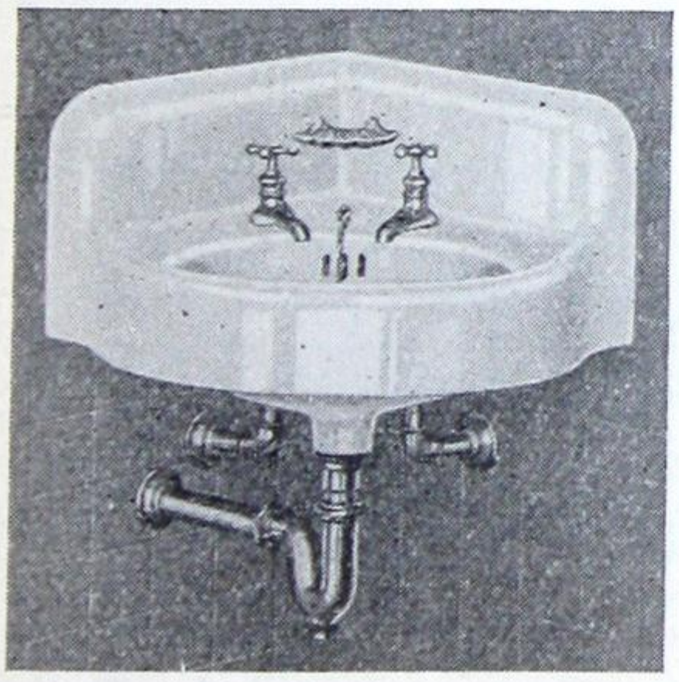


SPECIFICATION:

Plate G1872a.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory with Slab, "D" Pattern Bowl with Rear Outlet, Overflow, Back and Apron all in one piece. Supported on concealed Wall Hangers. Soap Cup attached and under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, Fuller Faucets, ⅜" supply pipes to wall, G1315, and 1¼" "P" Trap, G1339.

Size 19", Size of Bowl 10½" x 15", Back 8".

Price as described..... $24.00
" Less all Fittings..... 12.60

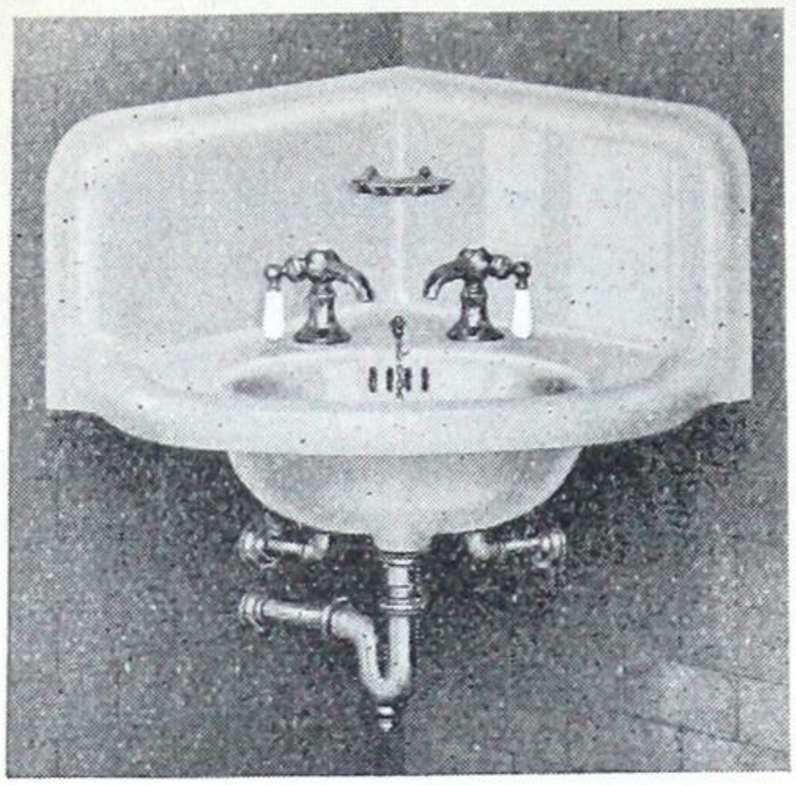


SPECIFICATION:

Plate G1872b.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory with Slab, Oval Bowl with Centre Outlet, Overflow, Back and Apron all in one piece. Supported on concealed Wall Hangers. Soap Cup attached and under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, Kingdon No. 2 Compression Faucets, G1029a, ⅜" Supply Pipes to Wall, G1315, and 1¼" "P" Trap, G1339.

Size 16½", Size of Bowl 11" x 14", Back 6".

Price as described..... $20.50
" Less all Fittings..... 10.75



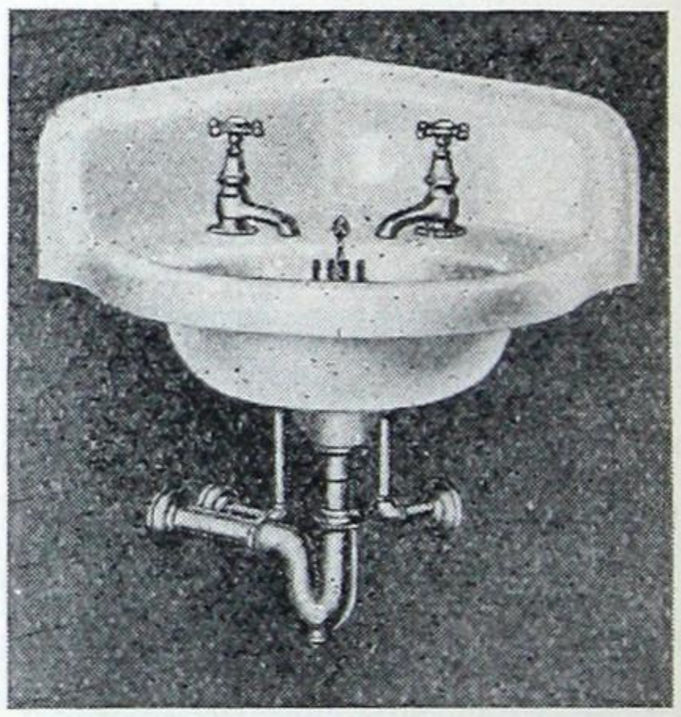
SPECIFICATION:

Plate G1873a.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory, with Slab, Overflow Bowl and Back all in one piece. Supported on concealed Wall Hangers. Soap Cup attached and under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, Torrance Faucets, G1090, ⅜" Supply Pipes to Wall, G1315, and 1¼" "P" Trap, G1339.

SIZE.	Back.	Bowl.			Price.	
		Size.	Outlet.	Shape.	As Described.	Less Fittings.
19".....	8"	10½" x 14½"	Rear	"D" Pattern	$23.60	$11.50
20".....	10"	11½" x 14½"	"	Oval	28.10	16.00

SPECIFICATION:

Plate G1873b.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory with Slab, Overflow Bowl and Back all in one piece. Supported on Concealed Wall Hangers. Under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, No. 1 Kingdon Compression Faucets, G1029b, ⅜" Supply Pipes to Wall, G1315, and 1¼" "P" Trap, G1339.



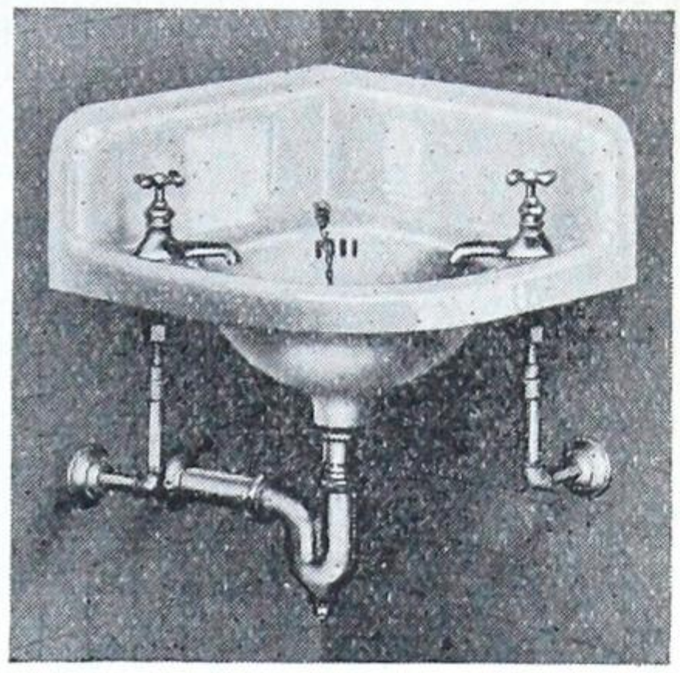
SIZE.	Back.	Bowl.			Price.	
		Size.	Outlet.	Shape.	As Described.	Less Fittings.
16".....	5½"	9½" x 13½"	Rear	"D" Pattern	$19.45	$9.30
16½".....	6"	11" x 14"	Centre	Oval	18.20	8.00

Note.—Size 16½" has Soap Cup attached.

SPECIFICATION:

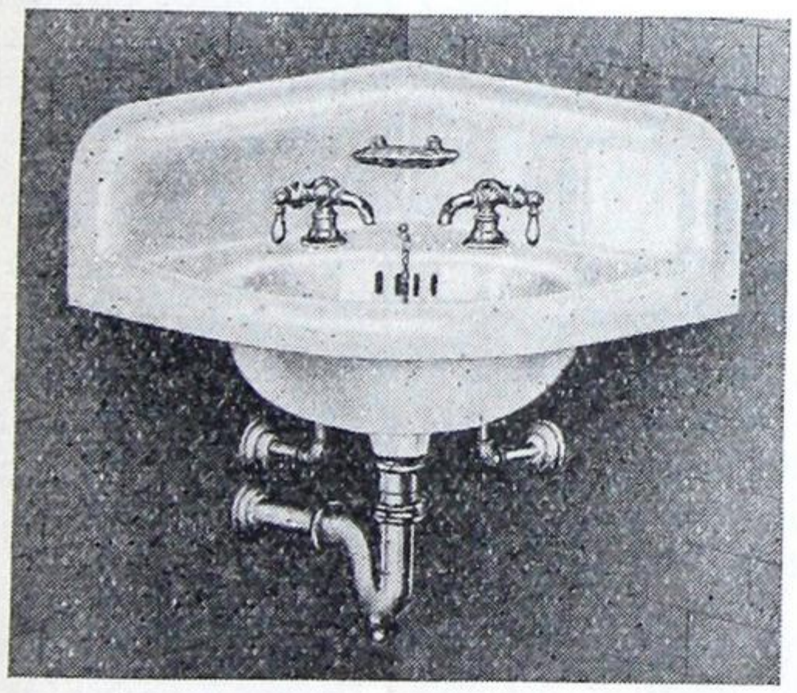
Plate G1873c.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory with Slab, Round Bowl with Centre Outlet, Overflow and Back all in one piece. Supported on concealed Wall Hangers. Under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, No. 2 Kingdon Compression Faucets, G1029a, ⅜" Supply Pipes to Wall, G1315, and 1¼" "P" Trap, G1339.

Size 16", Back 5", Size of Bowl 11".



Price as described..... $15.55

" Less all Fittings..... 5.80



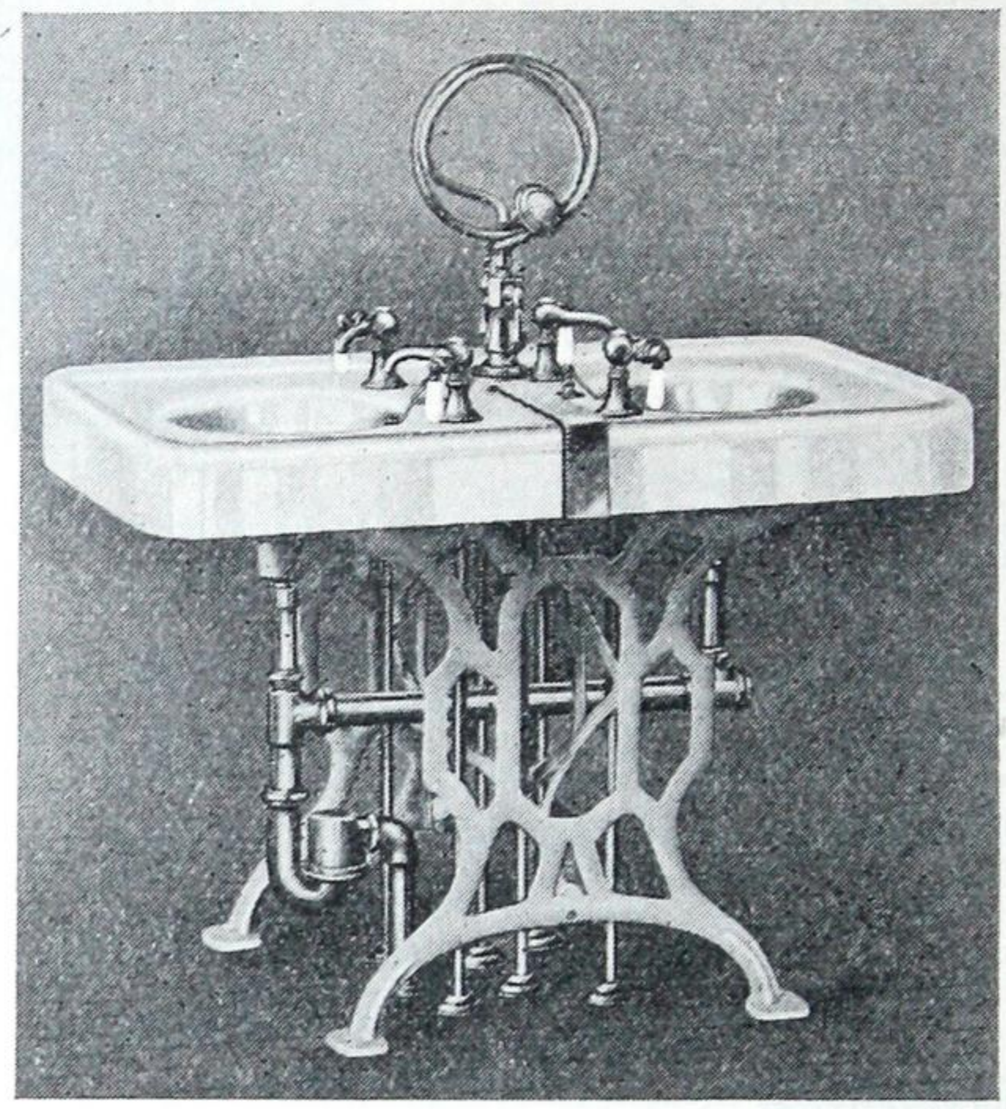
SPECIFICATION:

Plate G1873d.—Robertson's "Monarch" Porcelain Enameled Corner Lavatory with Slab, "D" Pattern Bowl with Rear Outlet, Overflow and Back all in one piece. Supported on concealed Wall Hangers. Soap Cup attached and under side of Slab and Bowl painted white. Fitted with Waste Plug and Rubber Stopper, Chain and Chain Stay, "Jaroco" Fuller Faucets, G1089, ⅜" Supply Pipes to wall, G1315, and 1¼" "P" Trap, G1339.

Size 18½", Back 6", Size of Bowl 10" x 14".

Price as described..... $21.50

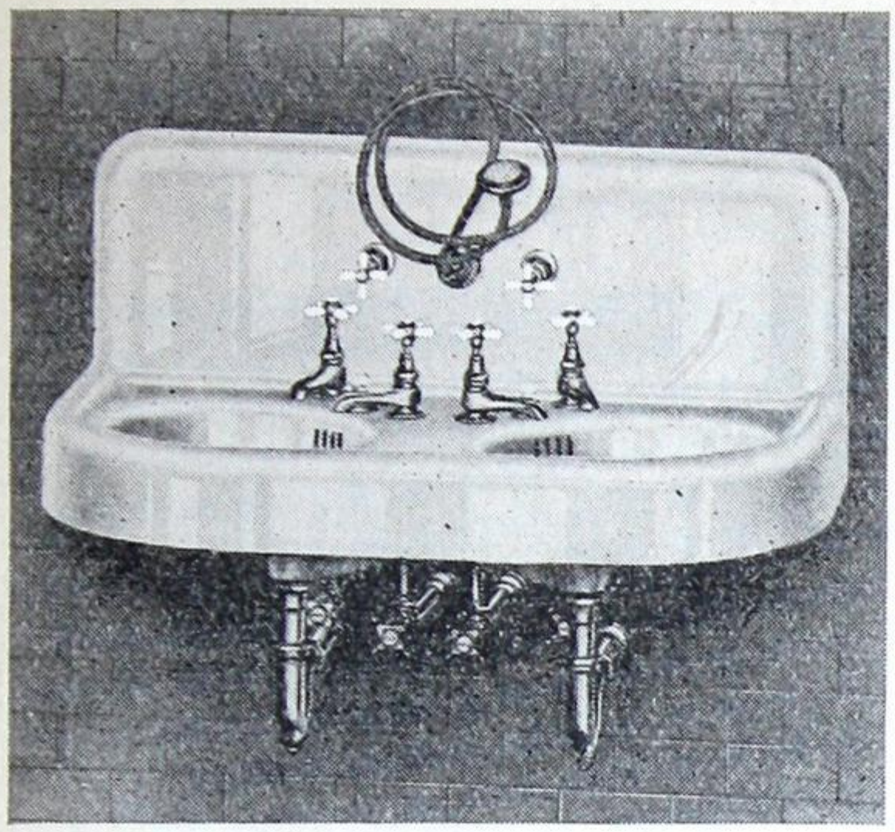
" Less Fittings..... 11.00



SPECIFICATION:

Plate G1874a.—Robertson's "Monarch" Porcelain Enameled Two-bowl Barber's Lavatory with Slab, Oval Bowl with Centre Outlet, Overflow and Apron of each section all in one piece; supported on Painted Brackets to Floor and fitted with Heavy Nickel-plated Union Strip, Fuller Double Shampoo Faucet with Rubber Hose and Sprinkler, Waste Plugs and Rubber Stoppers, Chains and Chain Stays, "Torrance" Faucets, G1090, ⅜" Supply Pipes to floor, 1½-inch Continuous Waste and 1½-inch Whirlpool S. Trap, G1346. Under side of Slabs and Bowls painted white.

SIZE.	Size of Bowl.	Price.	
		As Described.	Less Fittings.
24" x 36"	12" x 15"	$90.00	$50.25
27" x 44"	12" x 15"	97.50	57.75



SPECIFICATION:

Plate G1874.b—Robertson's "Monarch" Porcelain Enameled Two-bowl Barber's Lavatory with Slab, Oval Bowls, with rear Outlets, Overflows, Back and Apron all in one piece; supported on Concealed Wall Hangers and fitted with Compression Double Shampoo Faucet with Rubber Hose and Sprinkler, Kingdon Pop Waste, G1380, Kingdon No. 1 Compression Faucets, G1029.b, with China Tip, 4 arm Handles, ⅜" Supply Pipes to wall with Valves, G1316, and 1¼" "P" Traps, G1339. Under side of Slab and Bowls painted white.

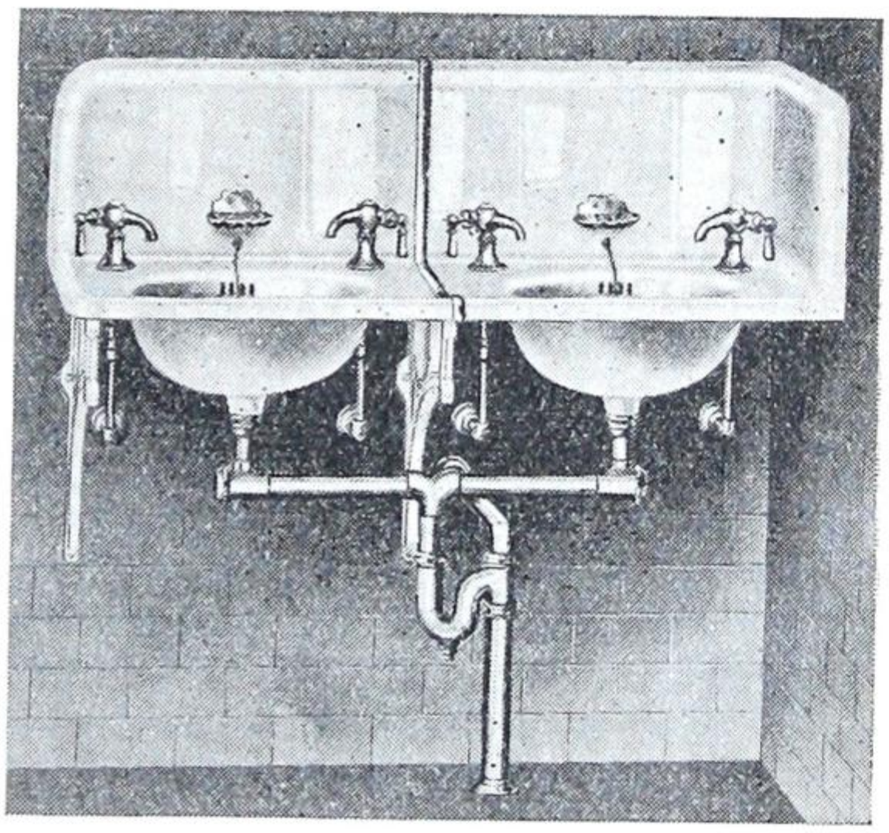
Size 22" x 38". Height of Back, 12".
Bowls, 12" x 15". Depth of Apron, 5".

Price as described..... $86.25
" Less all Fittings..... 40.50
If with Waste Plugs and Rubber Stoppers instead of Pop Waste..... 75.75

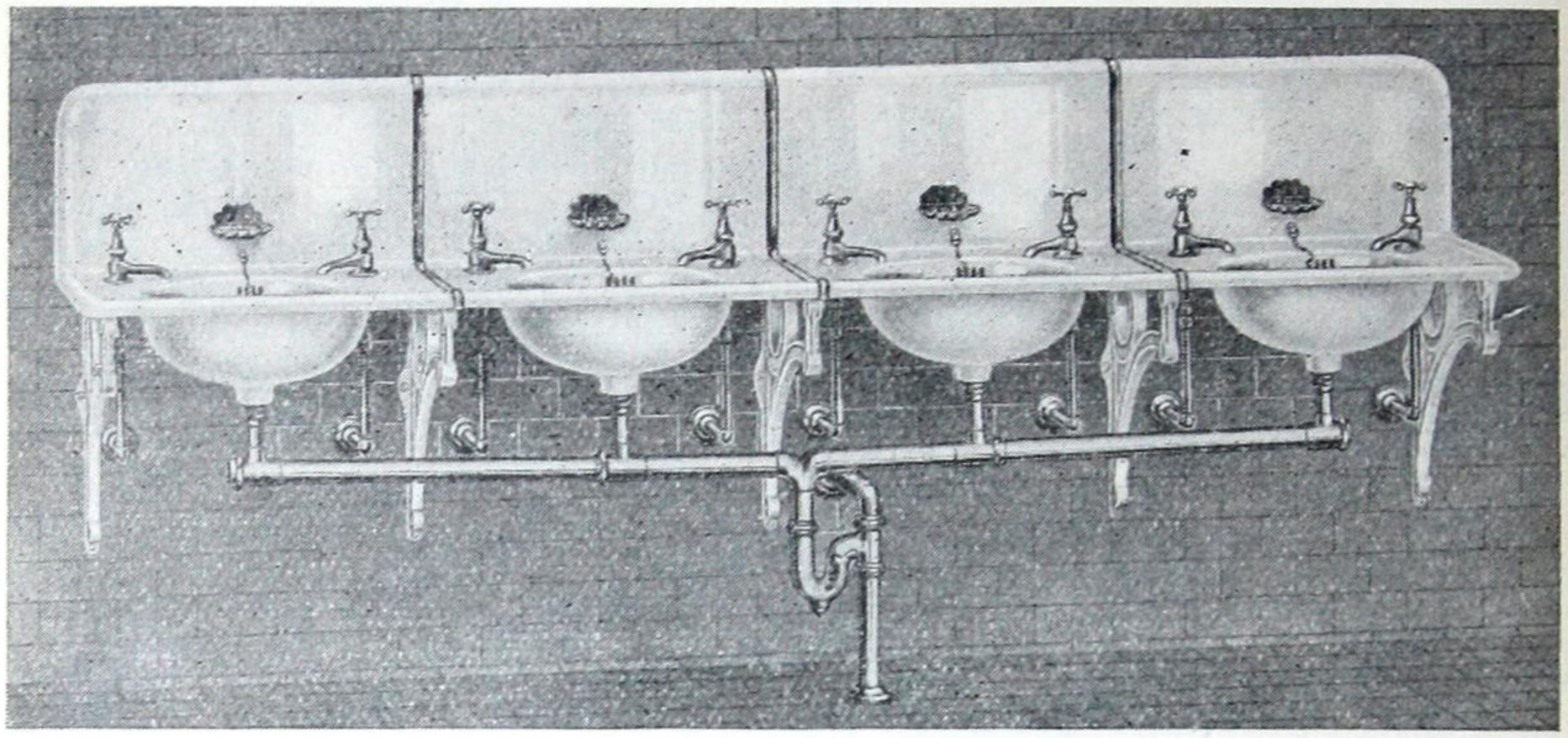
SPECIFICATION:

Plate G1875.—Robertson's "Monarch" Porcelain Enameled Two-Section Lavatory with Slab, Oval Bowl with Centre Outlet, Overflow and Back of each section all in one piece, Right Hand End Section with End Piece cast integral. Supported on Painted Brackets and Concealed Wall Hangers; fitted with Nickel-plated Union Strip, Soap Dishes, Waste Plugs and Rubber Stoppers, Chains and Chain Stays, "Torrance" Faucets, G1090, ⅜" Supply Pipes to wall, G1315, 1½" continuous waste, and 1½" vented "S" trap, G1338. Under side of Slabs and Bowls painted white.

Right Hand Corner shown, but can be supplied for Left Hand Corner if desired.



SIZE.	Back.	Size of Bowls.	Price.			
			Two Sections as shown.		Add for each additional Section.	
			As Described.	Less Fittings.	As Described.	Less Fittings.
16" x 20".....	12"	11" x 14"	$65.00	$34.50	$26.50	$14.50
18" x 24".....	12"	12" x 15"	69.25	38.75	28.50	16.50
20" x 24".....	12"	12" x 15"	73.25	42.75	30.50	18.50
22" x 27".....	12"	12" x 15"	86.50	56.00	36.50	24.50

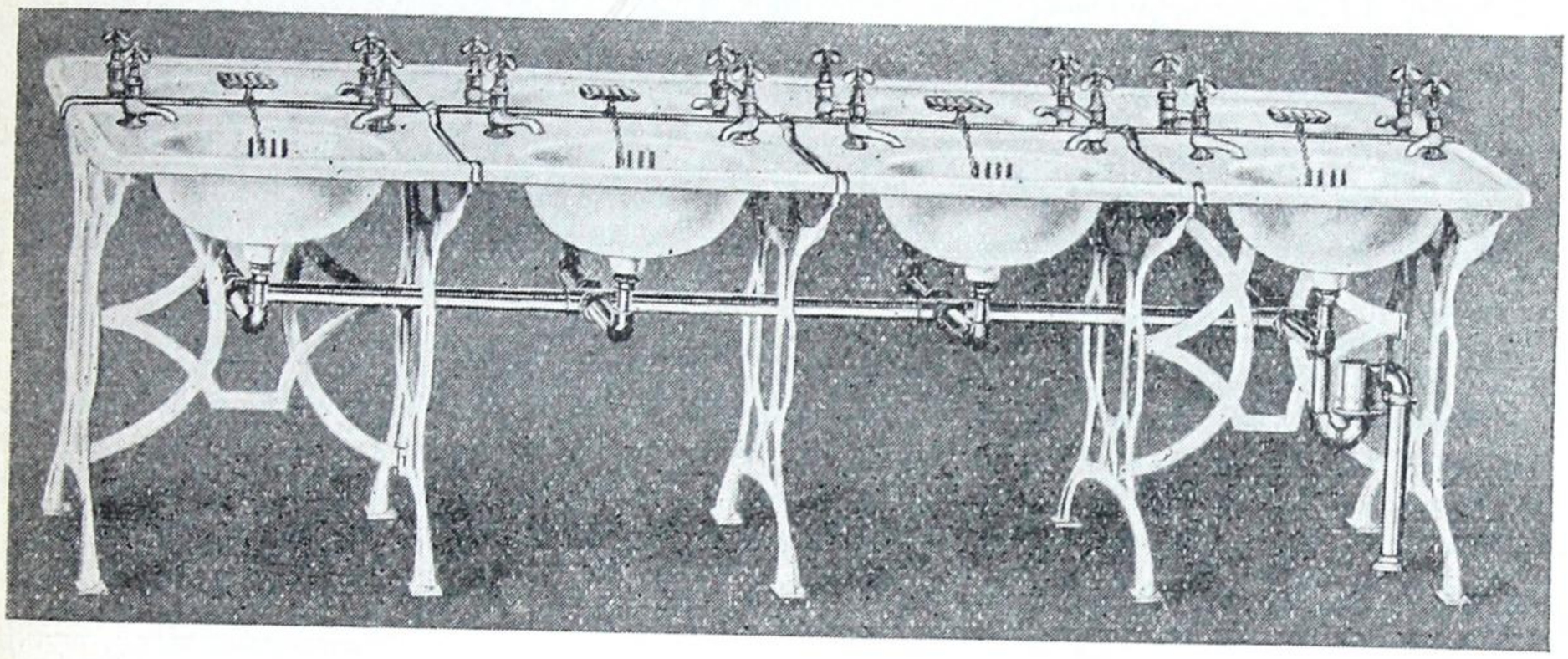


SPECIFICATION:

Plate G1876.—Robertson's "Monarch" Porcelain Enameled Four-Section Lavatory with Slab, Oval Bowl with Centre Outlet, Overflow and Back of each section all in one piece. Supported on Painted Brackets and Concealed Wall Hangers; fitted with Nickel-plated Union Strips, Soap Dishes, Waste Plugs and Rubber Stoppers, Chains and Chain Stays, Kingdon No. 1 Compression Faucets, G1029b, ⅜" Supply Pipes to wall, G1315, 1½" Continuous Waste and 1½" Vented "S" Trap, G1338, with Chain Stays and Soap Cups attached and under side of Slabs and Bowls painted white.

The above Lavatory as described can be furnished with either Right or Left Hand End Section with End Piece cast integral. See Plate G1875.

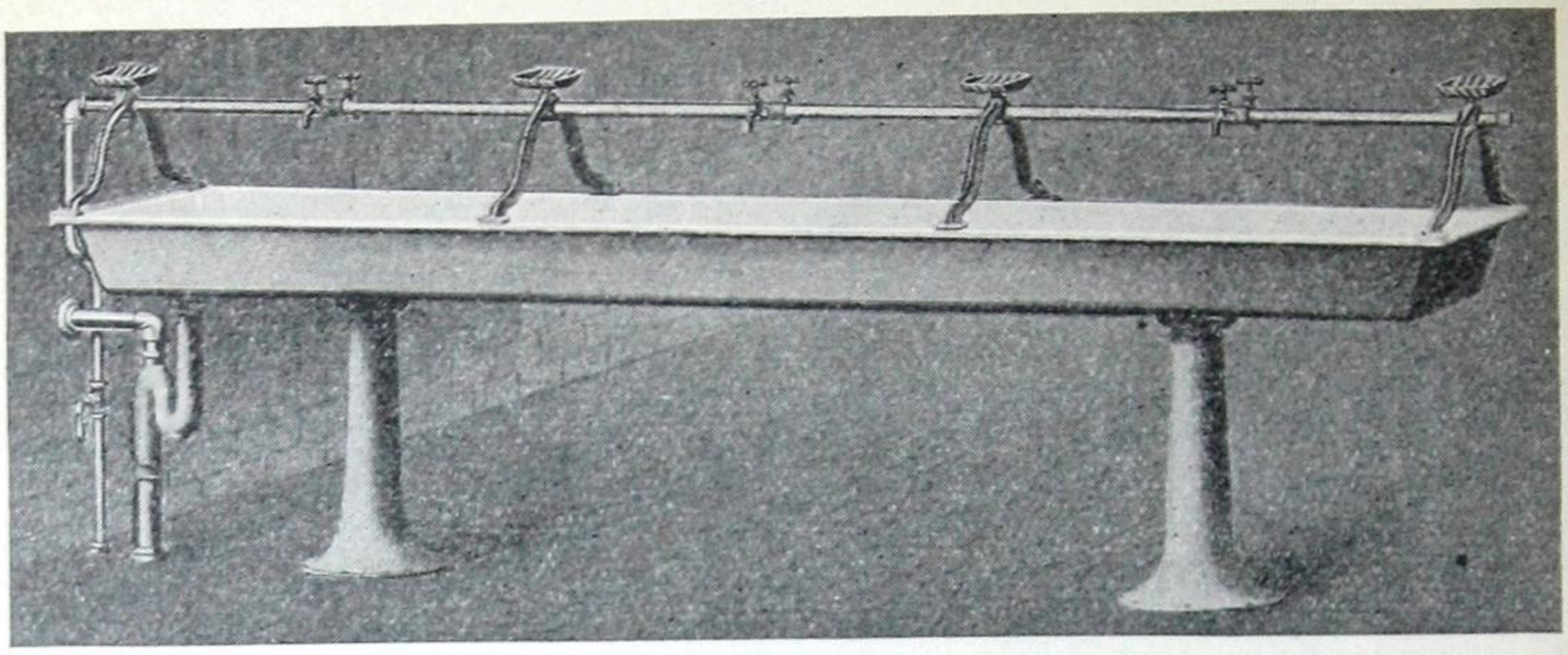
SIZE.	Back.	Size of Bowls.	Price. For 4-Section Lavatory. As Described.	Price. For 4-Section Lavatory. Less Fittings.	Price. Add or Deduct for Each Section. As Described.	Price. Add or Deduct for Each Section. Less Fittings.
16" x 20"	12"	11" x 14"	$103.50	$58.00	$24.00	$14.50
18" x 24"	12"	12" x 15"	111.50	66.00	26.00	16.50
20" x 24"	12"	12" x 15"	119.50	74.00	28.00	18.50
22" x 27"	12"	12" x 15"	143.50	98.00	34.00	24.50



SPECIFICATION:

Plate G1877.—Robertson's "Monarch" Porcelain Enameled Four Double-section Lavatory with lab, Oval Bowl with Centre Outlet and Overflow of each section all in one piece. Supported on Painted rackets to Floor; fitted with Nickel-plated Union Strips, Soap Dishes, Waste Plugs and Rubber Stoppers. hains and Chain Stays, Self-Closing Faucets, G1059f, 1½" Continuous Waste and 1½" Whirlpool "S" rap, G1346. Under side of Slabs and Bowls painted white. No Supply Pipes.

SIZE.	Size of Bowls.	Price.			
		For 4 Double Sections.		Add or Deduct for Each Double Section.	
		As Described.	Less Fittings.	As Described.	Less Fittings.
" x 20"	11" x 14"	$203.00	$115.00	$49.25	$28.75
" x 24"	12" x 15"	226.40	138.40	55.10	34.60



SPECIFICATION:

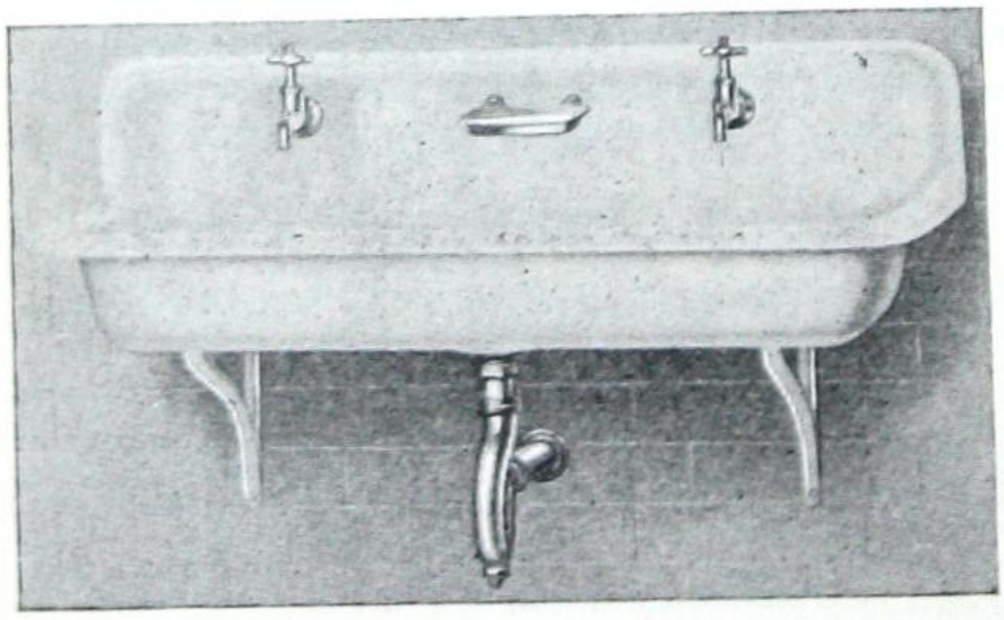
Plate G1878—Robertson's "Monarch" Extra Heavy Iron Flat Rim Wash Sink on Painted Pedestals with Painted Pipe Supports and ¾-inch Galvanized Iron Supply Pipe* over centre of Sink; fitted with Nickel-plated Open Standing Waste, Soap Dishes, ½-inch Compression Bibbs, G972, and 2-inch Painted Cast Iron "S" Trap with Brass (or Hub) Vent. Enameled Sinks have under side painted one coat.

Width over Rim, 24″. Depth inside, 6″.

Sizes, Inches	48 x 24	60 x 24	72 x 24	84 x 24	96 x 24	108 x 24	120 x 24
Price painted, less Bibbs and Stop	$26.50	$32.75	$35.50	$43.25	$49.25	$52.75	$57.00
Price enameled inside, less Bibbs and Stop†	36.25	53.25	60.75	.....	.....	.....	.....

*Pipe to floor not included. †Trap included.

Add for ½ Kingdon, Finished Brass Compression Bibbs, G972.....Each $2.35
" ¾ Stop Cock, G927c..... " 1.65

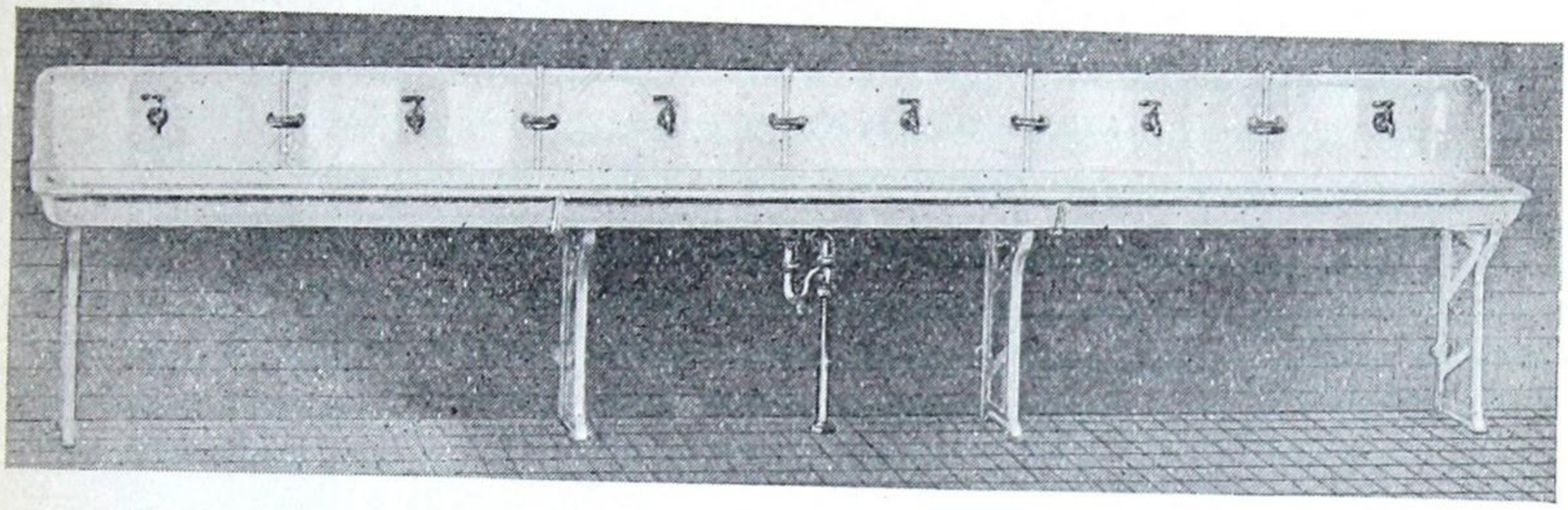


SPECIFICATION:

Plate G1879 — Robertson's "Monarch" Porcelain Enameled Roll Rim Wash Sink, with Sink and Back in one piece, supported on concealed Wall Hangers and Painted Brackets; fitted with Nickel-Plated Open Standing Waste, Soap Dish, Boston Pattern Self-Closing Bibbs, G1052.b, and 1½″ Bag Trap. Under side of Sink painted one coat.

Width Inside, 13¼″. Back 8″.
Width Outside 18″.

Size, in Feet	3	4	5
Number of Faucets	2	2	2
Price, as Described	$38.00	$44.75	$51.50
" Less Bibbs and Trap	$27.50	$34.25	$41.00



SPECIFICATION:

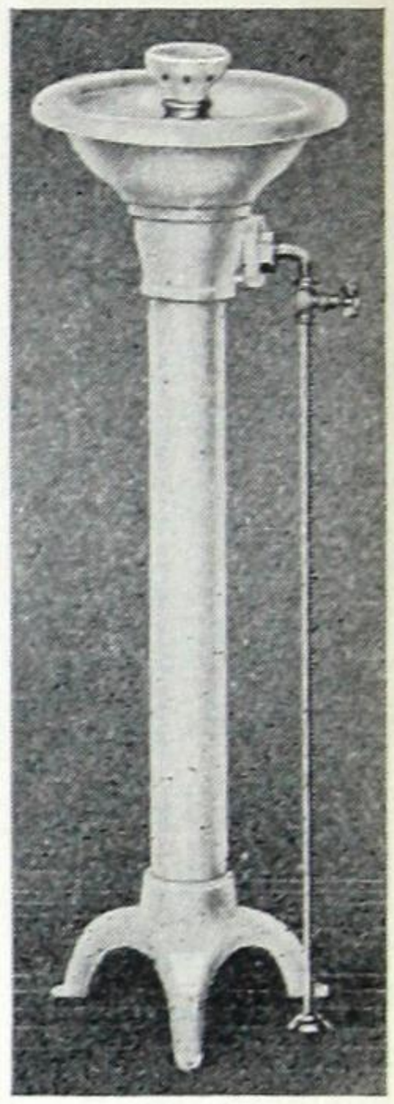
Plate G1880.—Robertson's "Monarch" Porcelain Enameled Roll Rim Sectional Wash Sink with separate Porcelain Enameled Backs, supported on painted Floor Brackets; fitted with Nickel-Plated open Standing Waste, Soap Dishes, ½" Quick Compression Flange Bibbs, G967, and 1½" "S" Trap with Vent. Under side of Sink painted one coat.

Width Inside, 14", Width Over Rim, 18", Height of Back, 12"

Size, Length in Feet.....	3	4	5	6	8	10	12	14	15	16
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as Described.....	43.10	49.85	56.60	70.65	89.80	107.45	122.45	142.50	151.65	159.25
" without Bibbs and Traps	30.50	37.25	44.00	54.75	72.25	88.25	103.25	120.00	127.50	136.75
Number of Bibbs.....	2	2	2	4	5	6	6	8	9	8

Size, Length in Feet.....	18	20	22	24	25	26	28	30	35
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as Described.....	180.80	195.80	222.25	238.90	246.65	265.70	284.25	299.50	350.25
" without Bibbs and Traps...	155.00	170.00	191.50	206.50	214.25	224.00	239.25	254.50	297.00
Number of Bibbs.....	10	10	13	14	14	14	16	16	21

Note.—Sizes 26 ft. to 35 ft. have 2 outlets.

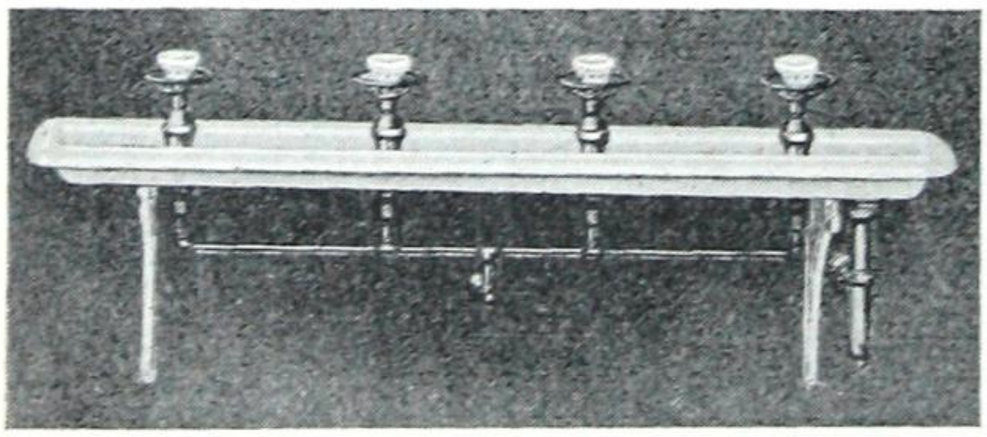


SPECIFICATION:

Plate G1881.a—Robertson's "Monarch" Pedestal Drinking Fountain with Porcelain Enameled Bowl and White Painted Iron Standard Base. Fitted with Nickel-Plated Continuous Flow Bubbler with China Cup (Cup having a small internal adjustable Volume Regulator), Exposed Galvanized Supply Pipe with Self-Closing Stop and Concealed Galvanized Waste Pipe to Floor.

Inside Diameter of Bowl, 8″
Outside " " 11″

Height	24″	30″	36″
Price, as Described	$27.50	$30.50	$33.50
Price, as Described, Enameled all over	29.75	32.75	35.75

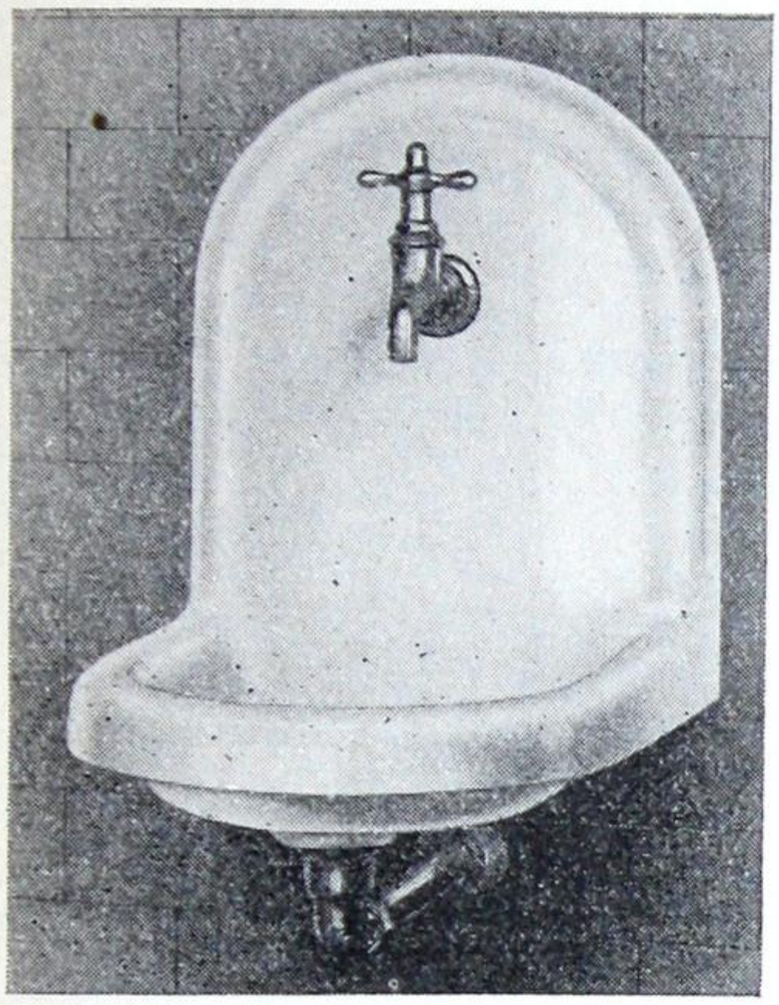


SPECIFICATION:

Plate G1881.b—Robertson's "Monarch" Porcelain Enameled Drinking Fountain on Painted Brackets. Fitted with Nickel-Plated Self-Closing Bubbling Valves with China Cups (Cups having small internal adjustable Volume Regulators) and Operating Rings. Nickel-Plated ⅜″ Supply Pipe with Loose Key Stop and 1¼″ "P" Trap.

Width of Trough, 12″

Sizes	30″	42″	54″
Number of Cups	2	3	4
Price, as Described	$56.75	$78.00	$99.50
Price, as Described, Enameled all over	60.35	82.65	105.10



SPECIFICATION:

Plate G1881.c—Robertson's "Monarch" Porcelain Enameled Flat Back Drinking Fountain with Concealed Wall Hanger, fitted with Nickel-Plated Self-Closing Bibb, Open Strainer and Waste connection to wall.

Height 15″, Width 12½″, Depth (Front to Back) 15″.

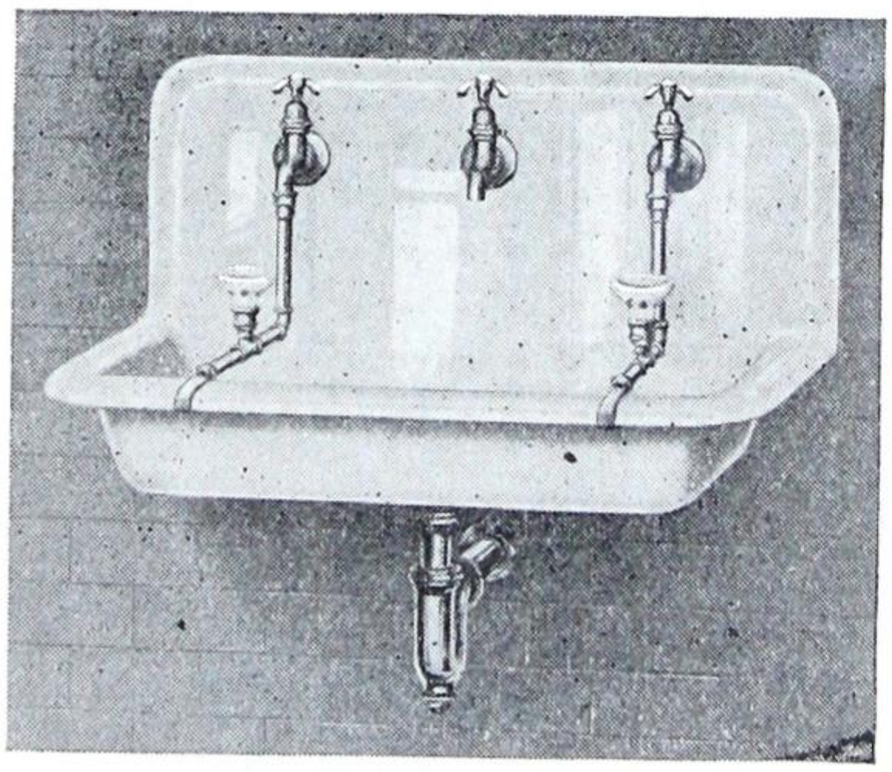
Price as described, Enameled all over..... $17.00

SPECIFICATION:

Plate G1881.d—Robertson's "Monarch" Porcelain Enameled Roll Rim Drinking Fountain with Back in one piece, on concealed Wall Hanger. Fitted with One Nickel-Plated Self-Closing Bibb and Two Nickel-Plated Combination Self-Closing Bibbs with China Cups, "Eclipse" Strainer and 1½″ "P" Trap.

Length 30″, Width 20″, Back 12″.

Price as described, Enameled Inside only...$43.00



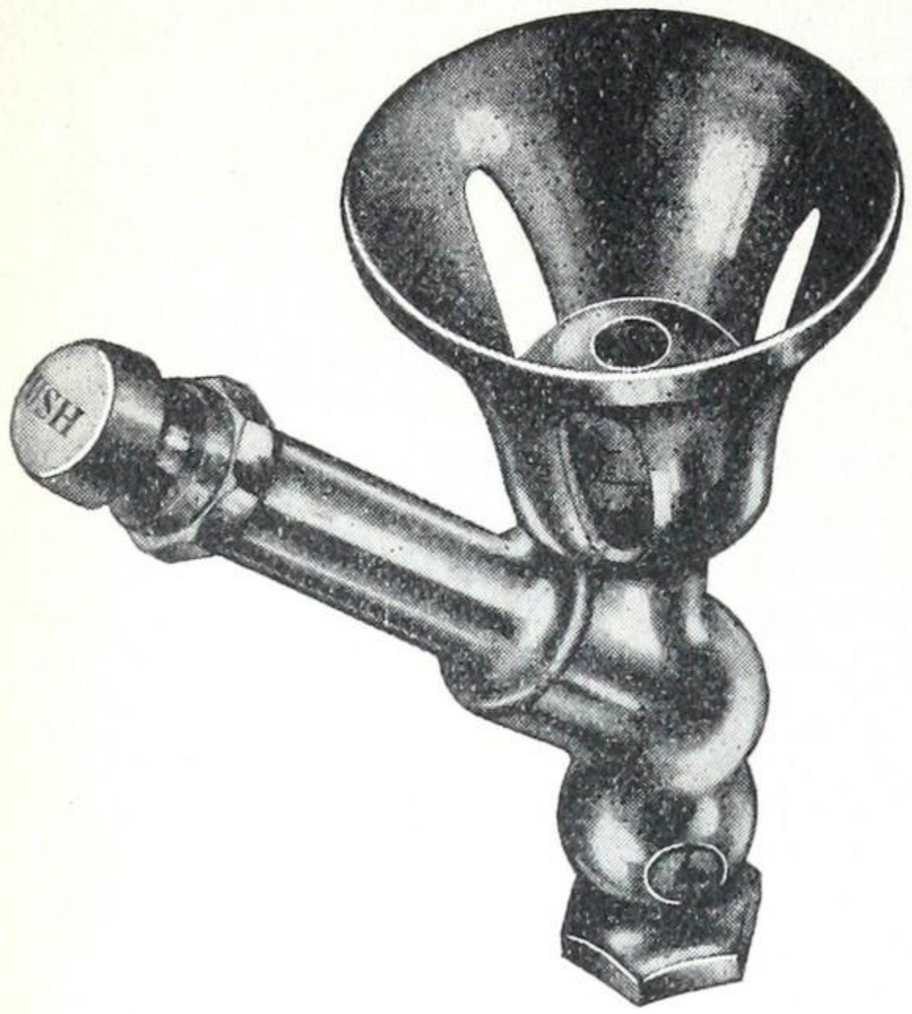
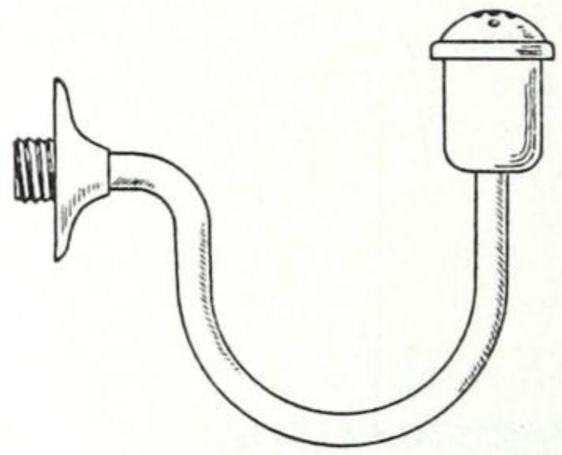


Plate G1882.a—Nickel-Plated Push Button Self-Closing Bubbler with Controlling Valve.

Each..... $10.00

Plate G1882.b—Nickel-Plated Kingdon Bracket Bubbler with Wall Flange.

Each..... $5.00



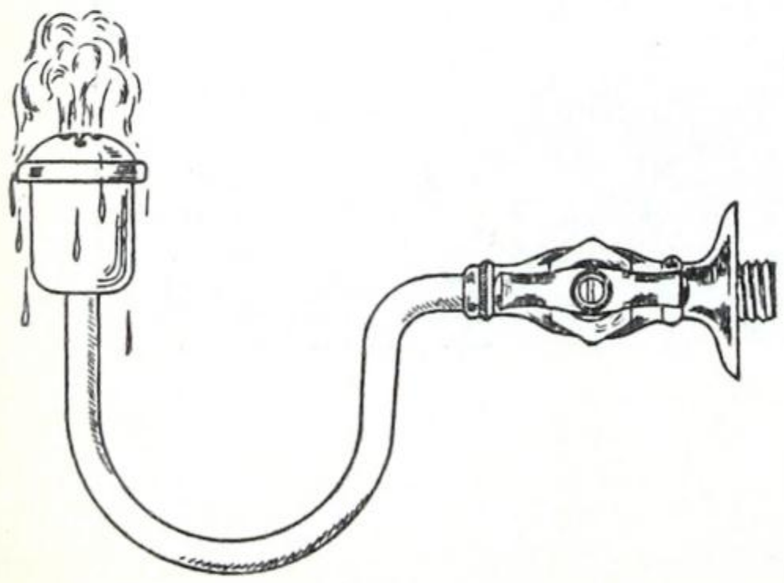


Plate G1882.c—Nickel-Plated Kingdon Bracket Bubbler with Wall Flange and Boston Self-Closing Faucet.

Each..... $8.00

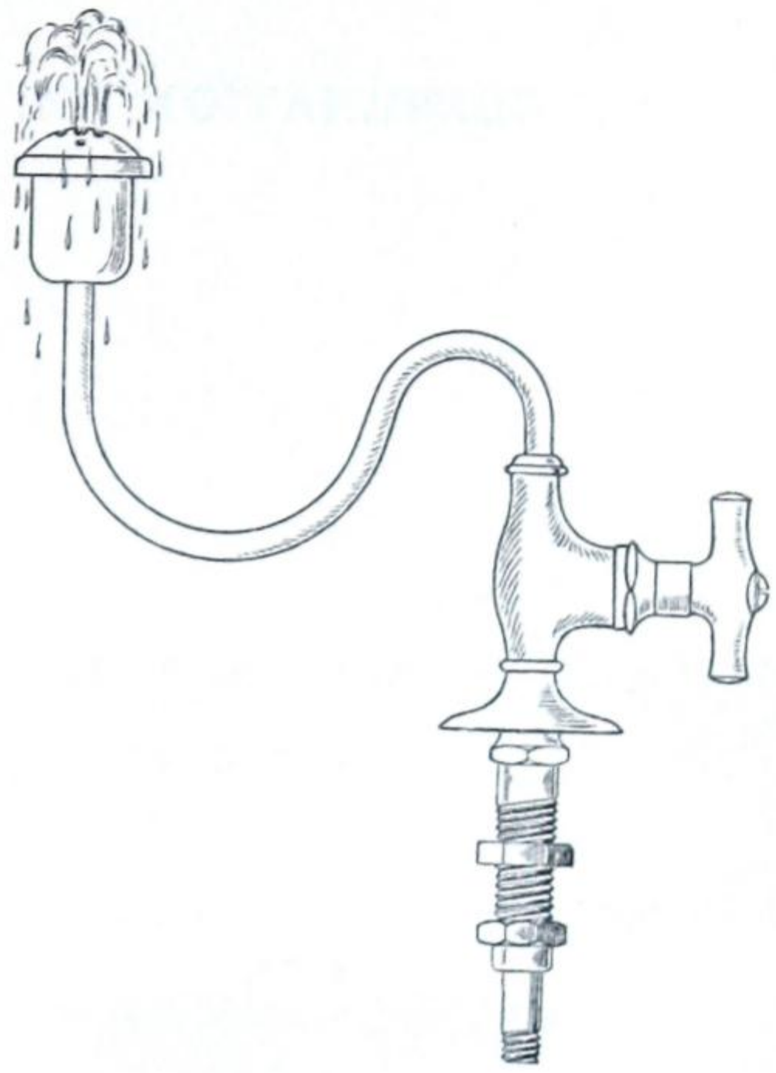


Plate G1882.d — Nickel - Plated Kingdon Bubbler with Boston Self-Closing Faucet and Shank for Lavatory.

Each..... $8.00

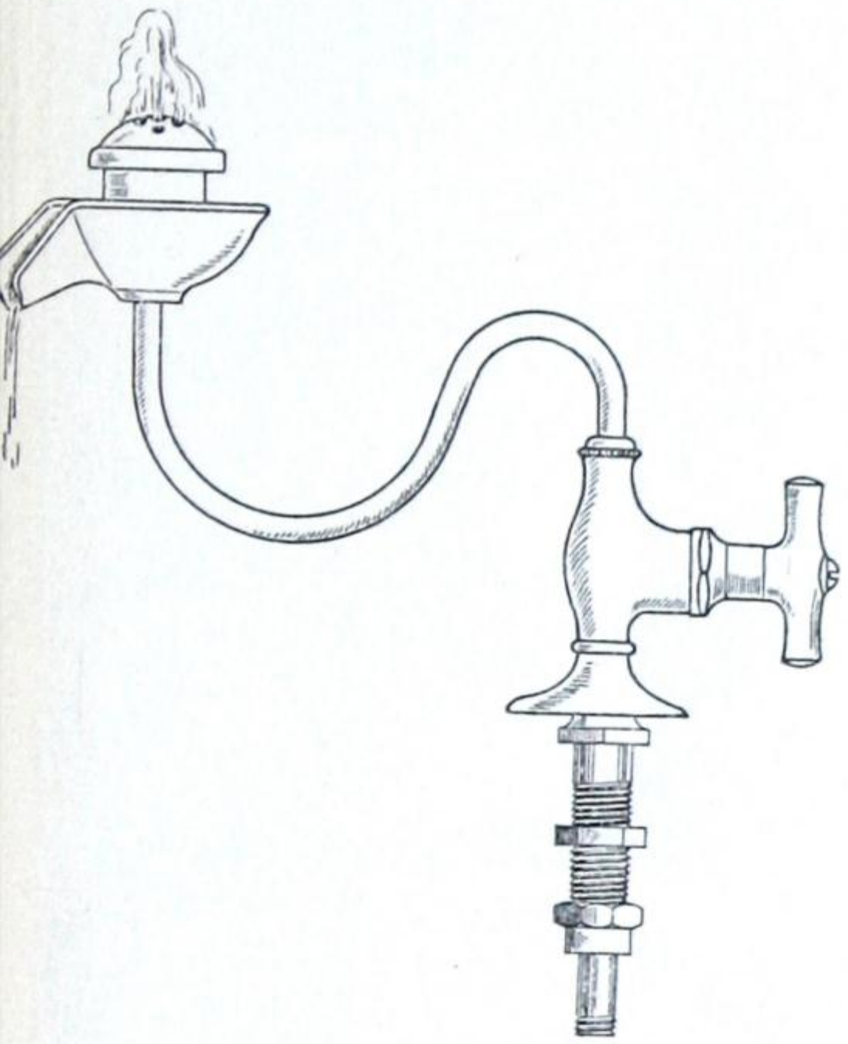


Plate G1882.e—Nickel-plated Kingdon Bubbler with Boston Self-Closing Faucet, Shank for Lavatory and Lipped Catch Cup.

Each..... $9.50



Plate G1882.f—Nickel-Plated Kingdon Bubbler th Boston Self-Closing Faucet and Guard ng.

Each..... $9.00

COMBINATION ICE COOLERS AND FOUNTAINS.

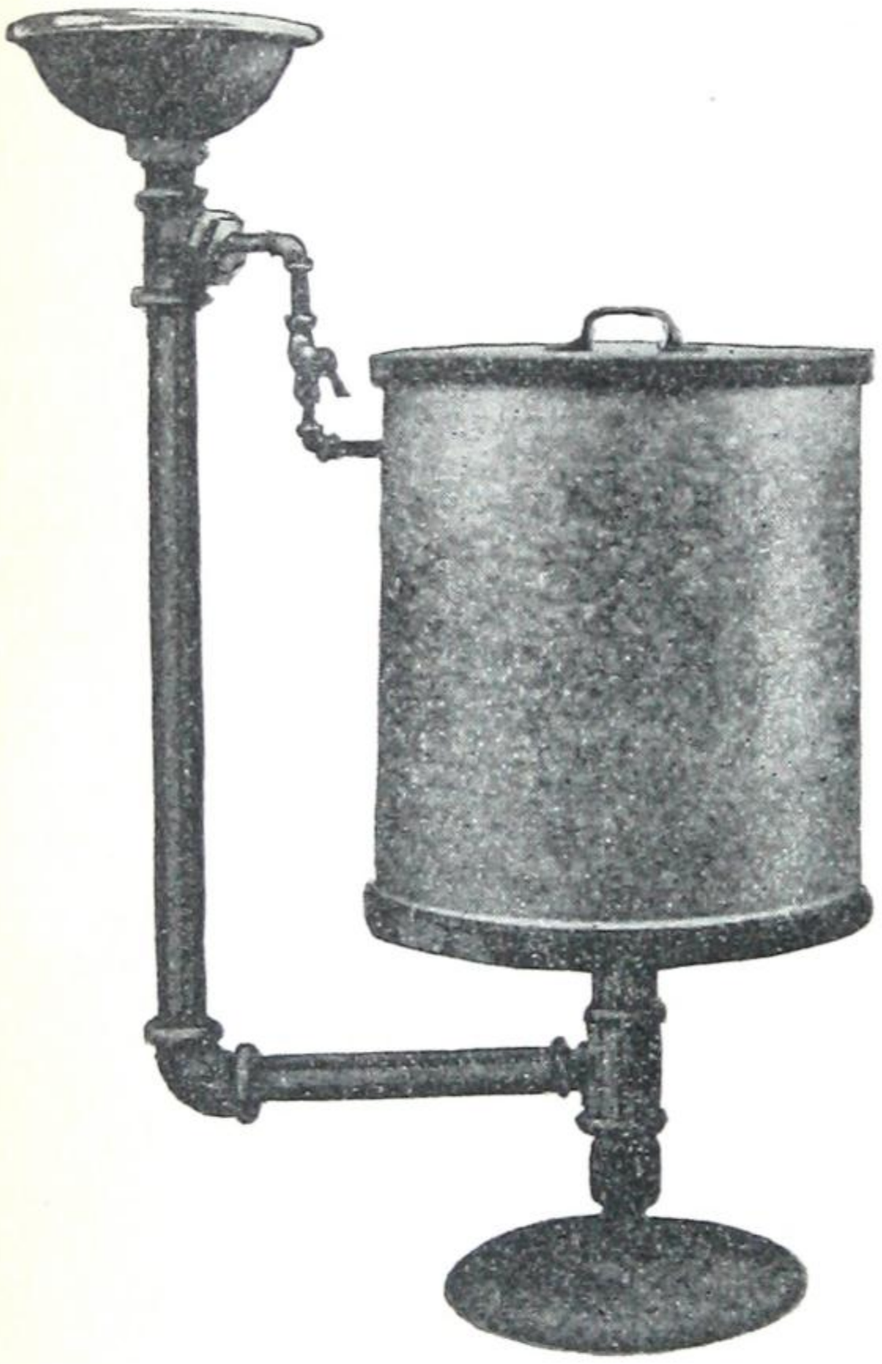


Plate G1882.g

Price each, with Standard Head and Self-Closing Stop.....$100.00

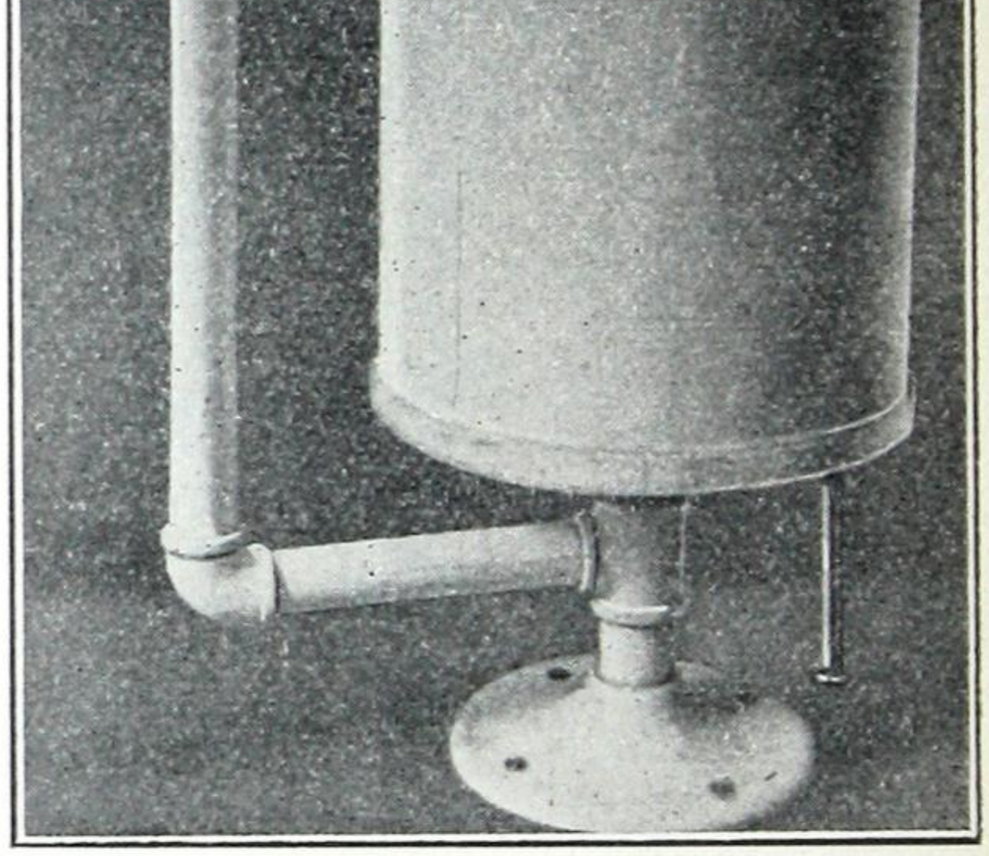


Plate G1882.h

Price Each, with "East" Head...$110.00

Above Coolers are made with a Coil of Pipe which is protected by a perforated casing which contains the ice. Water should always be put in Container with ice which will assure a cool drink as long as any ice remains. A splendid Fountain for Factories and Workshops. Container holds 50 lbs. ice and is provided with waste stopper to drain when desired.

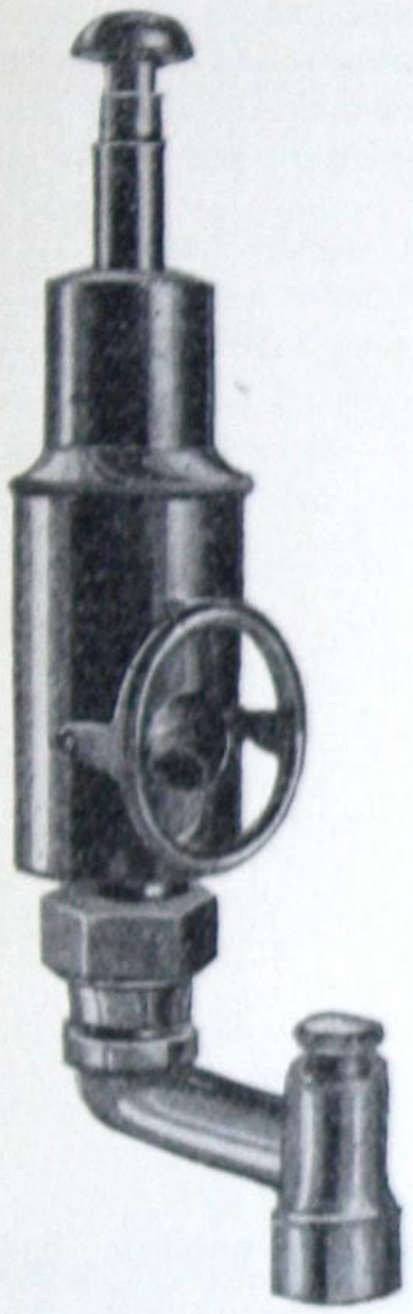


Plate G1882.i

THE "EAST" SANITARY FOUNTAIN HEAD
with Horizontal Jet.

Guarantees a 100 per cent. pure jet of water—always free from contamination—always the same pressure—simple and satisfactory in operation and economical to install and maintain.

Safeguard the health of your town by installing or urging the installation of this fountain. The public drinking cup is considered by many to be a spreader of disease.

The fountain with the horizontal jet—makes this impossible. The lips cannot touch the outlet nor can contaminated water reach it.

Price Each $16.00



SPECIFICATION:

Plate G1883.a—The "Acme" Syphon-jet Closet, brass floor flange and bolts, with copper-lined oak low-down tank, centre push button with china index, "Acme" oak seat and cover, with nickel-plated brass post hinges, nickel-plated brass flush connection and nickel-plated brass supply pipe.

List price as described, varnish finish.....$31.25
List price as described, piano polish..... 32.80
If with stop valve on supply, add to list.... 1.20



SPECIFICATION:

Plate G1883.b—The "Fleur-de-Lis" Syphon-action Closet, brass floor flange and bolts, with copper-lined oak low-down tank, centre push button with china index, "Fleur-de-Lis" oak seat and cover, nickel-plated brass flush connection and nickel-plated brass supply pipe.

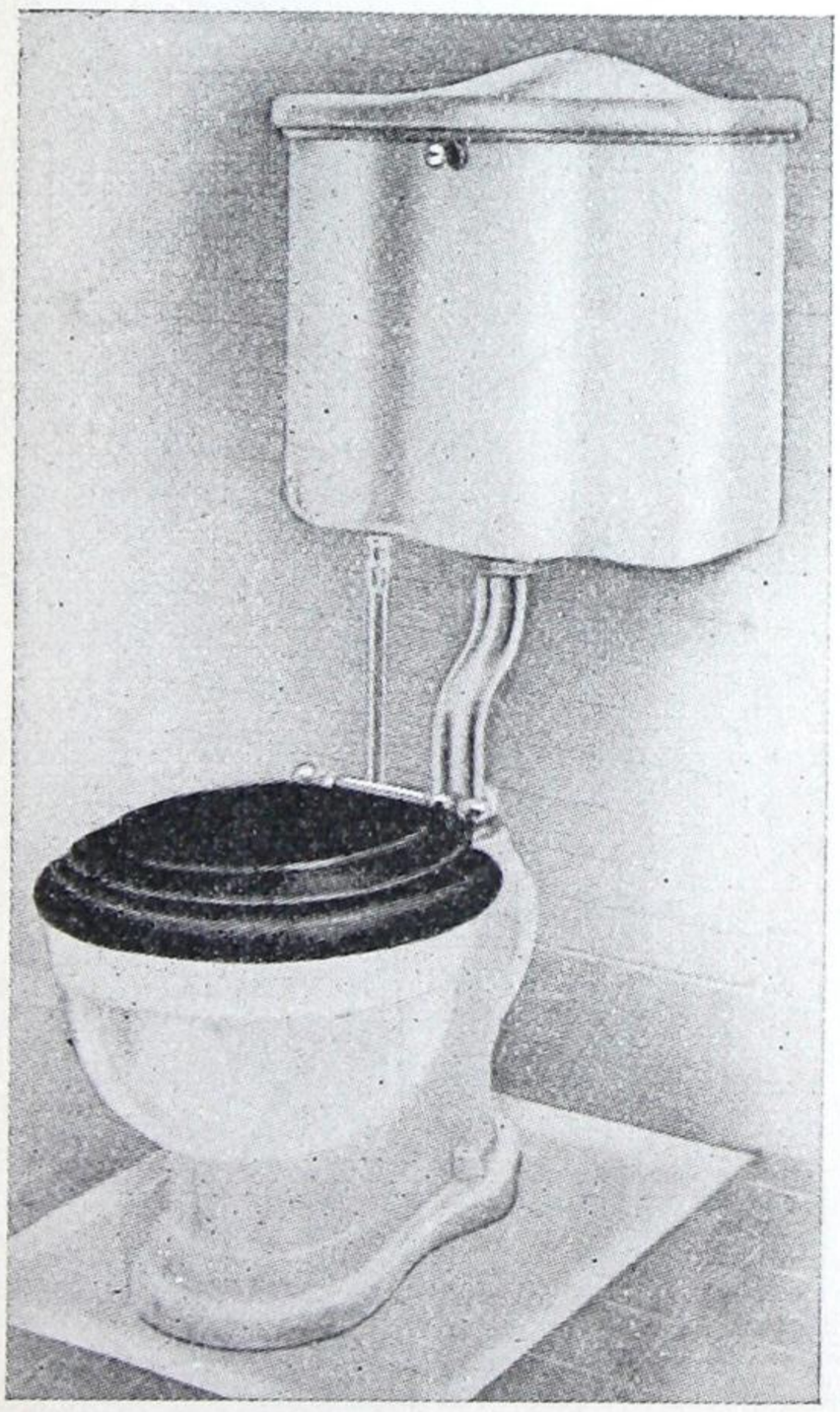
List price as described, varnish finish.....$21.00
List price as described, piano polish..... 22.65
If with stop valve on supply, a ld to list.... 1.20

SPECIFICATION:

Plate G1883.c—The "Kobolta" Syphon-jet Closet, brass floor flange and bolts, with square pattern vitreous china low-down tank, centre push button with china index, golden oak seat and cover, with nickel-plated brass post hinges, nickel-plated brass flush connection and nickel-plated brass supply pipe.

List price as described.....$31.25
If with stop valve on supply, add to list.... 1.20
If with white Fibreoid seat and cover, with reinforced hinge, add to list..... 4.70

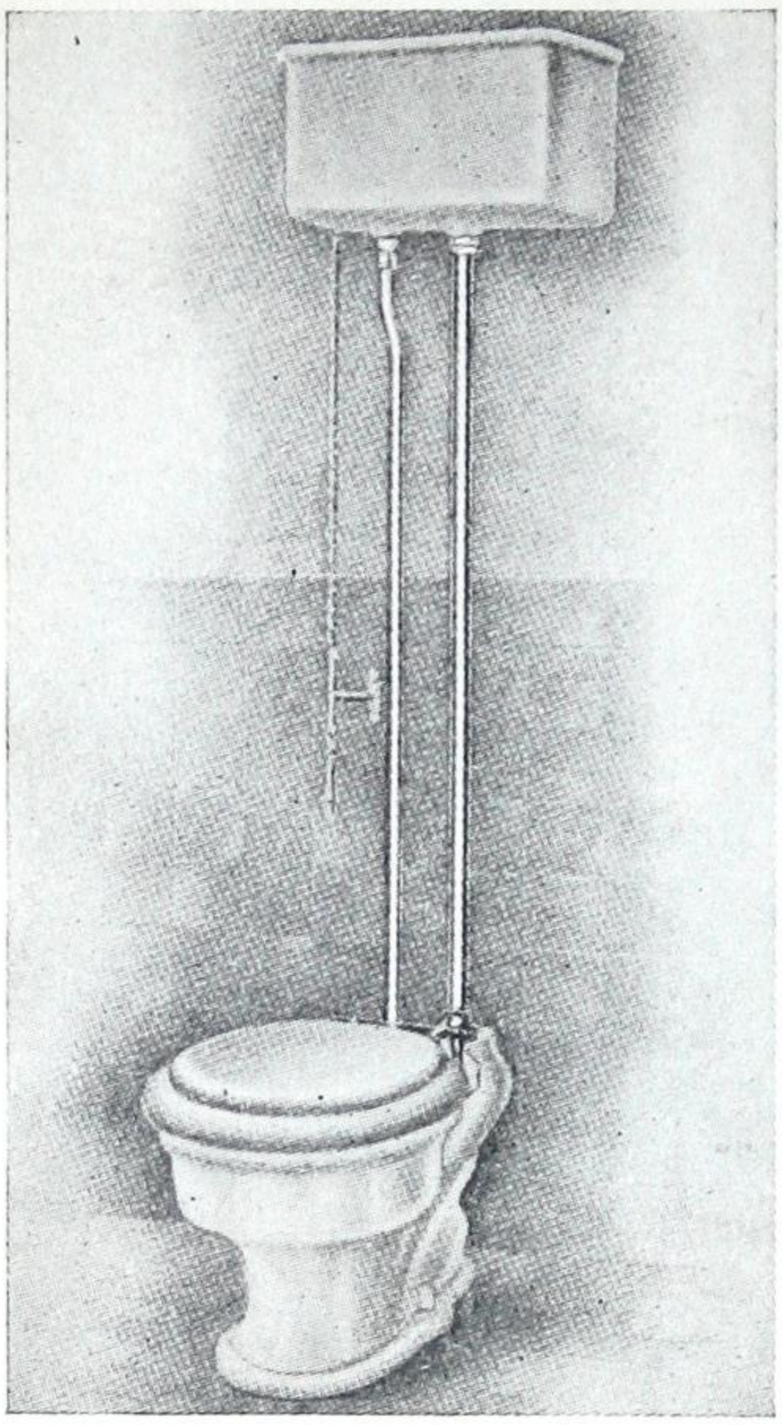




SPECIFICATION:

Plate G1883.d—The "Naturo" Syphon-jet Closet, brass floor flange and bolts, with swell front vitreous china low-down tank, centre push button with china index, mahogany seat and cover with nickel-plated bar brace hinges, nickel-plated brass flush connection and nickel-plated brass supply pipe.

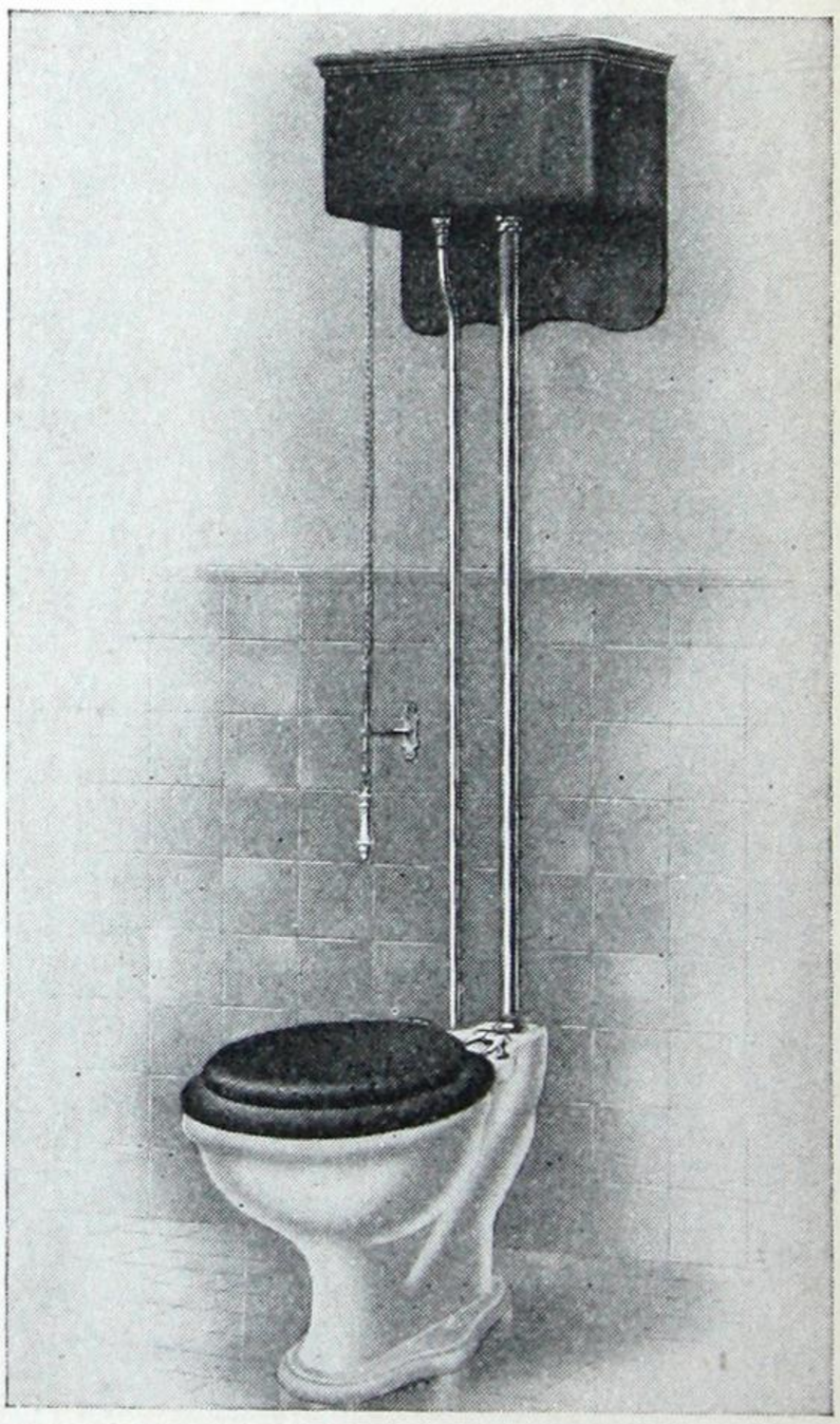
List price as described.....$62.50
If with stop valve on supply, add to list.... 1.20



SPECIFICATION:

Plate G1884.a—The "Kingdonia" Centre-outlet Syphon-jet Closet, brass floor flange and bolts, with vitreous china high tank, concealed hangers, nickel-plated chain with guide and pull, nickel-plated 1½-inch flush pipe, nickel-plated iron pipe size supply pipe and white Fibreoid seat and cover with nickel-plated bar brace hinge.

List price as described.....$50.00
If with stop valve on supply pipe, add to list..... 1.20



SPECIFICATION:

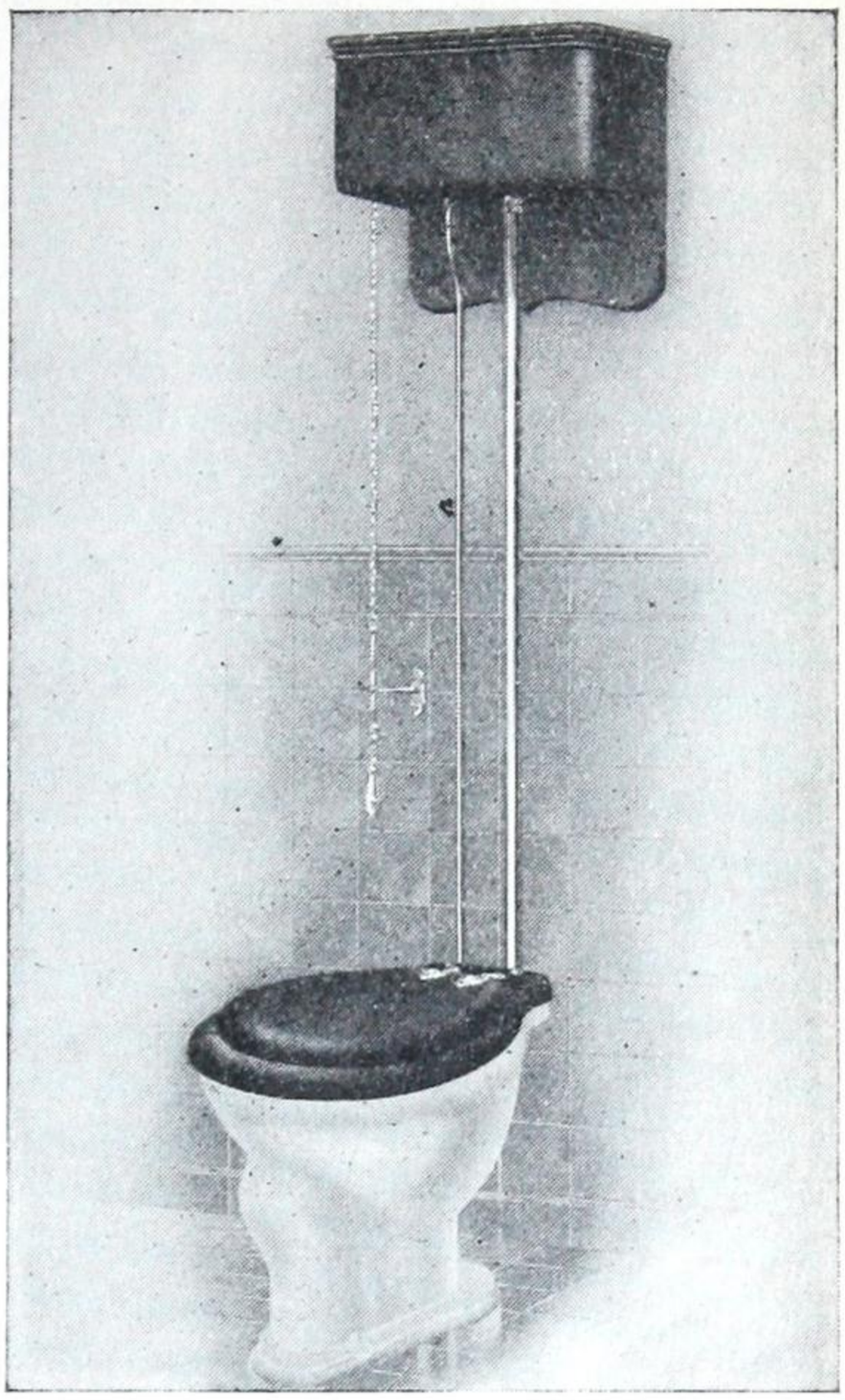
Plate G1884.b—The "Acme" Syphon-jet Closet, brass floor flange and bolts, "Acme" oak high-tank with shield board, nickel-plated chain with guide and pull, nickel-plated 1½-inch flush pipe, nickel-plated iron pipe size supply pipe and "Acme" oak seat and cover with nickel-plated cast brass post hinges.

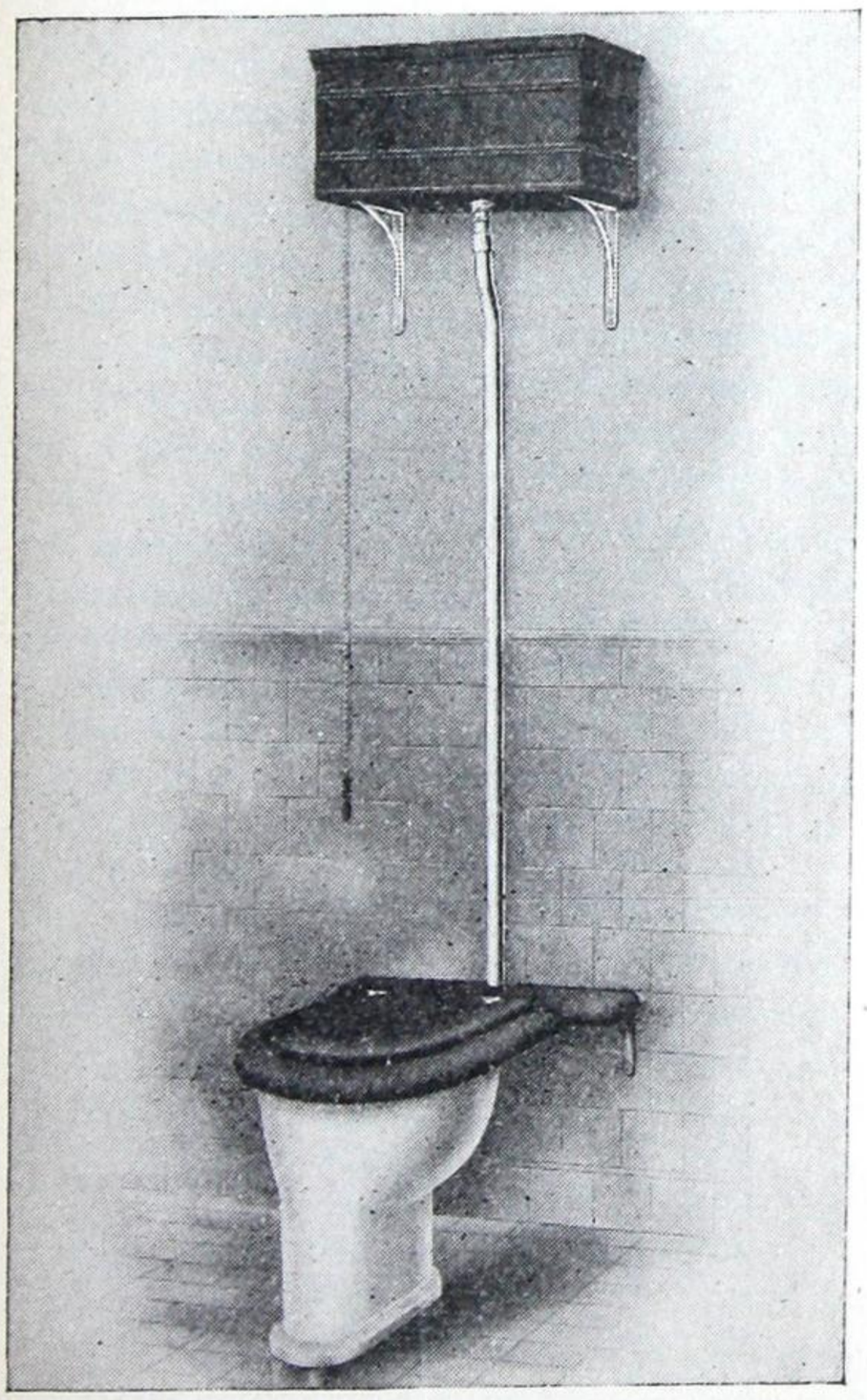
List price as described, varnish finish.... $30.60
List price as described, piano polish..... 32.80
If with stop valve on supply pipe, add to list..... 1.20

SPECIFICATION:

Plate G1884.c—The "Fleur-de-Lis" Syphon-action Closet, brass floor flange and bolts, oak high tank with shield board, nickel-plated chain with guide and pull, nickel-plated 1½-inch flush pipe, nickel-plated slip-joint elbow, nickel-plated iron pipe size supply pipe, "Fleur-de-Lis" oak seat and cover with nickel-plated bolts.

List price as described, varnish finish....	$23.25
List price as described, piano finish.....	25.25
If with stop valve on supply pipe, add to list	1.20





SPECIFICATION:

Plate G1884.d—The "Richelieu" Closet with the Hustler tank, brackets, lead flush pipe, rubber connections and "Richelieu" seat and cover with brackets.

List price as described, less flush pipe....	$12.50
If with N.P. brass flush pipe, add to list..	3.10
If with N.P. brass supply pipe, add to list	2.50
If with galv. iron flush pipe, add to list...	2.30



SPECIFICATION:

Plate G1885.a—The "Acme" Syphon-jet Closet, brass floor flange and bolts, nickel-plated Kenney lever handle "Flushometer" and "Acme" oak seat and cover with nickel-plated cast brass post hinges.

The reputation of the Kenney "Flushometer" is fully established.

List price as described..... $35.00

If with Integral Stop, add to list..... 4.75



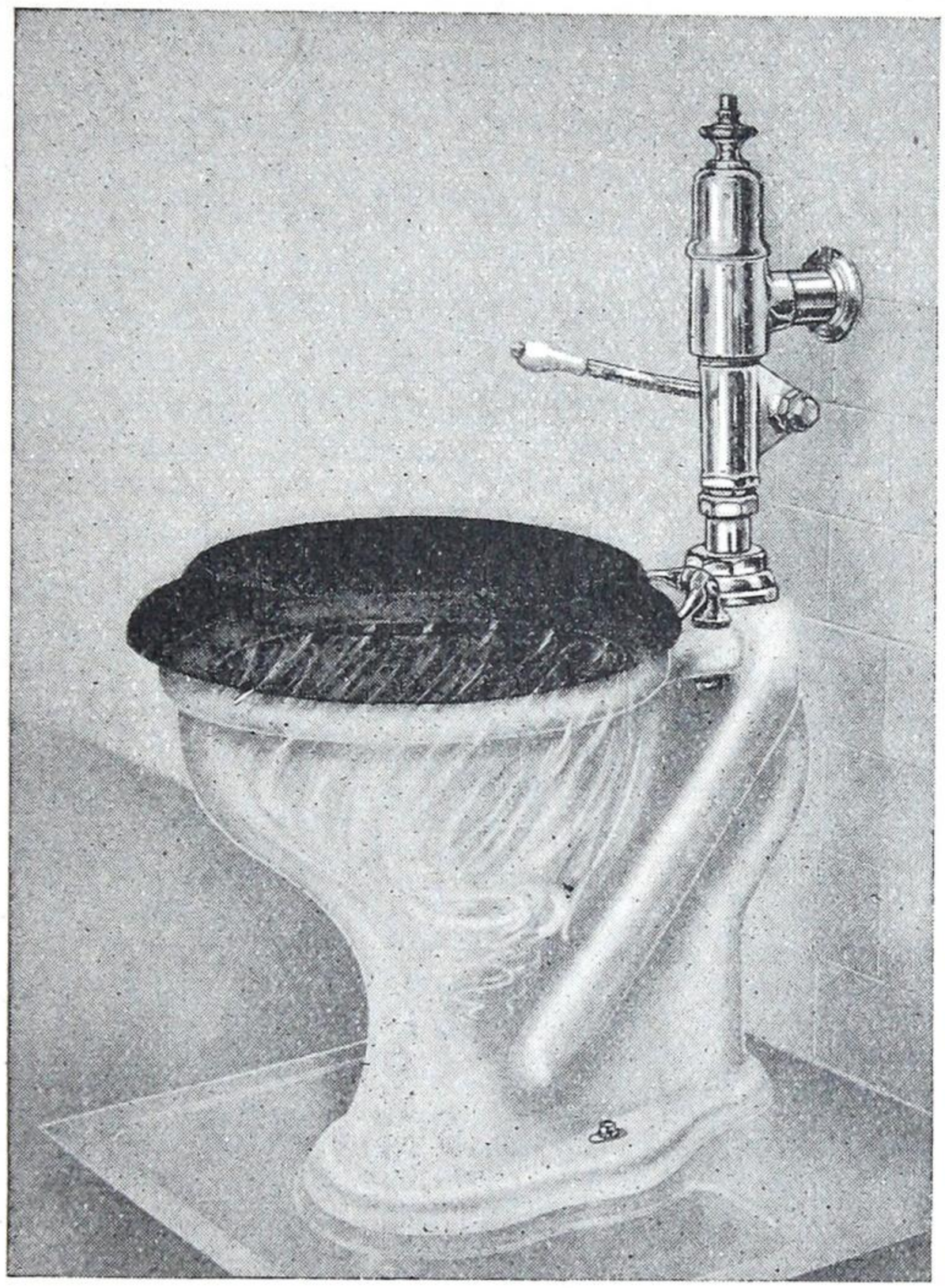
SPECIFICATION:

Plate G1885.b—The "Fleur-de-Lis" Syphon-action Closet, brass floor flange and bolts, with nickel-plated Kenney lever handle "Flushometer" and "Fleur-de-Lis" oak seat and cover.

The reputation of the Kenney "Flushometer" is fully established.

List price as described..... $27.50

If with Integral Stop, add to list..... 4.75

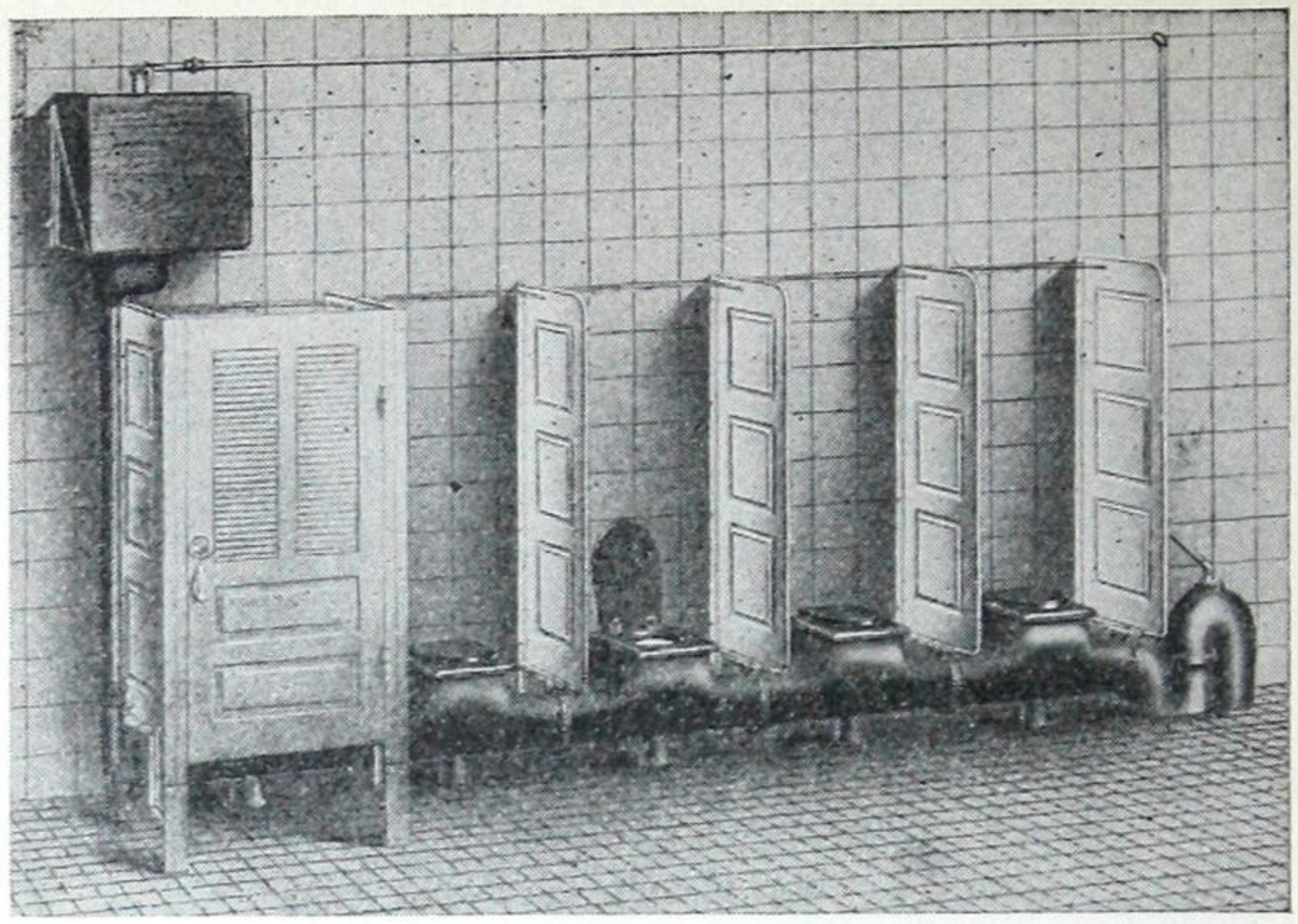


SPECIFICATION:

Plate G1885.c—The "Acme" Syphon-Jet Centripetal Action Closet, Brass Floor Flange and Bolts, Nickel-Plated Kenney Lever Handle "Flushometer" and Acme Oak Seat and Cover, with Nickel-Plated Cast Brass Post Hinges.

List, as described.....	$35.00
If with Integral Stop, add to List.....	4.00

The Centripetal Action of this Closet is obtained by the Water from the Flushing Rim striking the Bowl at a certain angle which causes a spiral motion, thus thoroughly cleansing the closet and causing the water to cling to the surface and discharging practically noiseless.



SPECIFICATION:

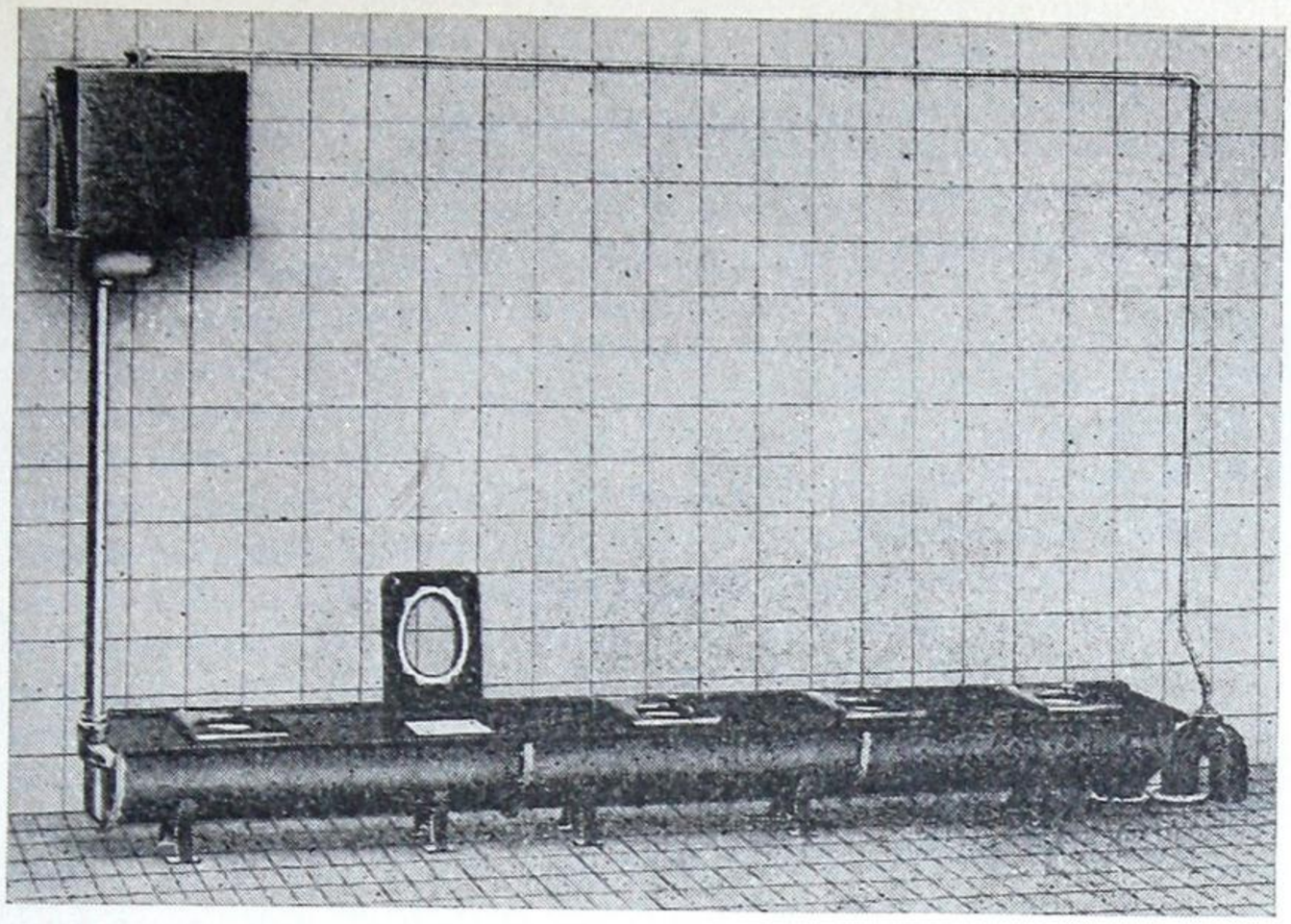
Plate G1886.a—Robertson's "Monarch" Porcelain Enameled Automatic Syphon Eduction Range Closet with Copper-Lined Wood Tank, Galvanized Flush and Air Pipes, Hinged Oak Seats with Iron Reinforcements, Seat Covers and Pressed Steel Partitions. Pressed Steel Private Enclosure Partitions, with one Panelled and Slatted Oak Door, fitted with Nickel-Plated Indicating Latch, Hand Pull and Spring Hinges are provided to make a Private Enclosure for one 30″ Seat on each Range priced below.

PRICES:

Number of Seats		2	3	4	5	6	7	8
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as described	24″	186.00	218.00	254.00	290.50	326.75	363.00	399.50
" "	27″	188.00	221.75	260.00	297.25	336.50	374.75	413.00
" "	30″	190.25	226.25	266.75	307.50	348.00	388.50	429.00
Price, without Steel Partitions or Private Enclosure	24″	107.75	128.75	154.50	180.25	206.00	231.50	257.25
" " " " "	27″	111.50	134.75	162.25	190.00	217.50	245.25	273.00
" " " " "	30″	116.00	141.50	171.50	201.25	231.25	261.00	291.00

Number of Seats		9	10	11	12	13	14	15
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as described	24″	435.75	472.00	508.50	544.75	581.00	617.00	653.50
" "	27″	451.25	489.50	528.00	566.00	.....	.....	.....
" "	30″	469.50	510.00	550.50	591.00	.....	.....	.....
Price, without Steel Partitions or Private Enclosure	24″	283.00	308.75	334.50	360.00	385.75	411.25	437.00
" " " " "	27″	300.50	328.25	356.00	383.50	.....	.....	.....
" " " " "	30″	321.00	351.00	380.75	410.75	.....	.....	.....

	24″	27″	30″
If without Private Enclosure but with Steel Partitions, deduct	$46.50	$44.50	$42.50
For every additional 30″ Private Enclosure adjacent to Private Enclosure as above described, add	37.50	35.50	33.50
If with Backs, add for each	9.85	10.65	11.45
If without Seat Covers, deduct for each			1.40
If with Seat Vents, 5″ x 2″ connection for Sheet Iron Pipe or Tapped for 2″ Iron Vent Pipe, add per seat			2.35



SPECIFICATION:

Plate G1886.b—Robertson's "Monarch" Porcelain Enameled Automatic open Syphon Range Closet with Copper Lined Wood Tank, Galvanized Flush and Air Pipes, Oak Top Plates and Back Strips, with hinged Oak Seats with Iron Reinforcements, and perforated Brass Wash-Down Pipes, fitted inside of range.

PRICES:

Number of Seats		2	3	4	5	6	7	8
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as described	24″	116.75	136.75	161.50	186.25	211.00	235.75	260.50
" "	27″	121.00	143.50	170.50	197.50	224.50	251.50	278.50
" "	30″	125.75	150.50	179.50	209.00	238.00	267.50	297.00
If with Partitions and one 30″ Private Enclosure as Plate G1886.a (No Seat Covers)	24″	195.00	225.75	261.00	296.50	332.00	367.50	402.75
" " " " "	27″	197.50	230.50	268.00	306.00	343.50	381.00	418.75
" " " " "	30″	200.00	235.00	275.00	315.00	355.00	395.00	435.00

Number of Seats		9	10	11	12	13	14	15
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Price, as described	24″	285.50	310.00	335.00	359.50	384.50	409.00	434.00
" "	27″	305.50	332.75	359.75	386.75	.....	.....	.....
" "	30″	326.00	355.00	385.00	414.00	.....	.....	.....
If with Partitions and one 30″ Private Enclosure as Plate G1886.a (No Seat Covers)	24″	438.00	473.50	509.00	544.00	579.50	615.00	650.00
" " " " "	27″	456.50	494.00	531.75	569.50	.....	.....	.....
" " " " "	30″	475.00	515.00	555.00	595.00	.....	.....	.....

ADDITIONAL TO PRICE AS DESCRIBED.

	24″	27″	30″
If with one 30″ Private Enclosure, add	$67.80	$65.80	$63.60
For every additional 30″ Private Enclosure adjacent, add	48.20	46.20	44.00
For Backs, add for each	9.85	10.65	11.45
For Regular Length Partitions, add each	10.65	.....	.....
For Seat Covers, add each	1.40	.....	.....
For Seat Vent Tapped 2″ Iron Pipe, add for each seat	2.35	.....	.....
For Ventilating Extension, for 14″ Pipe (pipe to flue not furnished), add for each range	13.00	.....	.....

Note.—To find price of 6-Seat Range of Closets with Partitions, 2-30″ Private Enclosures and 4-24″ Seats with Seats and Covers:

2 Private Enclosures at one End.

Price 6-Seat 24″	$211.00
" 1 Private Enclosure	67.80
" " " adjacent	48.20
" 4 Partitions at $10.65 each	42.60
" 6-Seat Covers at $1.40 each	8.40
List Required	$378.00

One Private Enclosure at each End.

Price 6-Seat 24″	$211.00
" 2 Private Enclosures, at $67.80 ea.	135.60
" 3 Partitions at $10.65 each	31.95
" 6-Seat Covers at $1.40 "	8.40
List Required	$386.95

"KENNEY" LEVER HANDLE FLUSHOMETER.

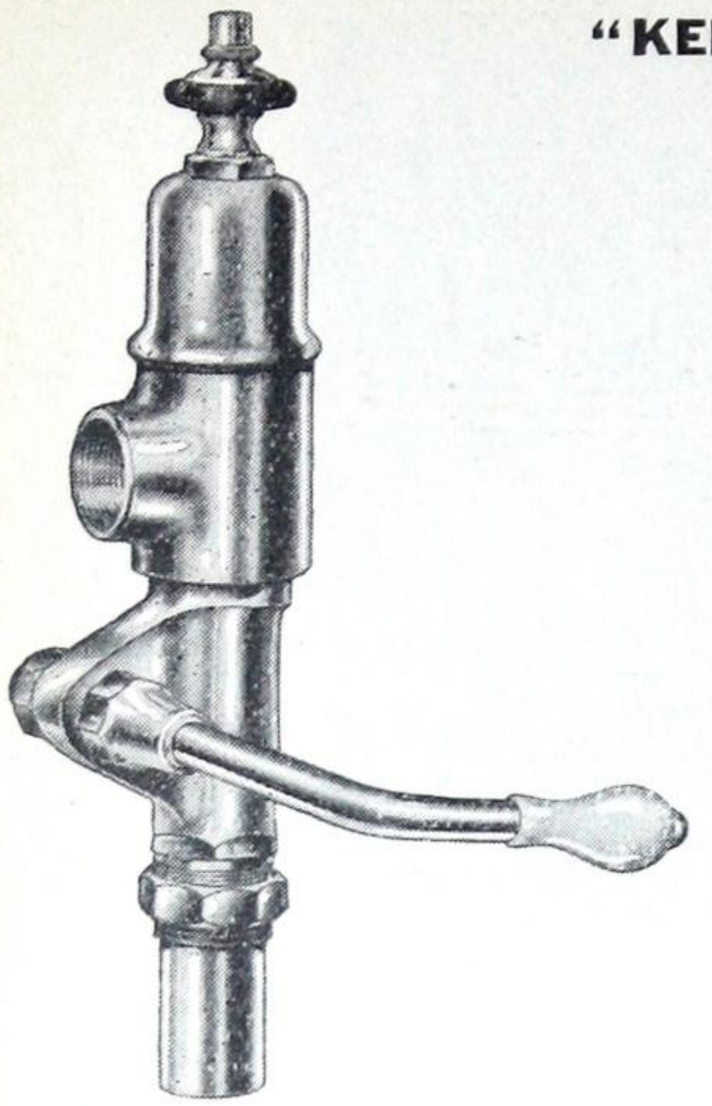


Plate G1887.a

1″, 1¼″ and 1½″ Sizes.

Price, Each..... $16.00

For Integral Stop, add.. $4.00

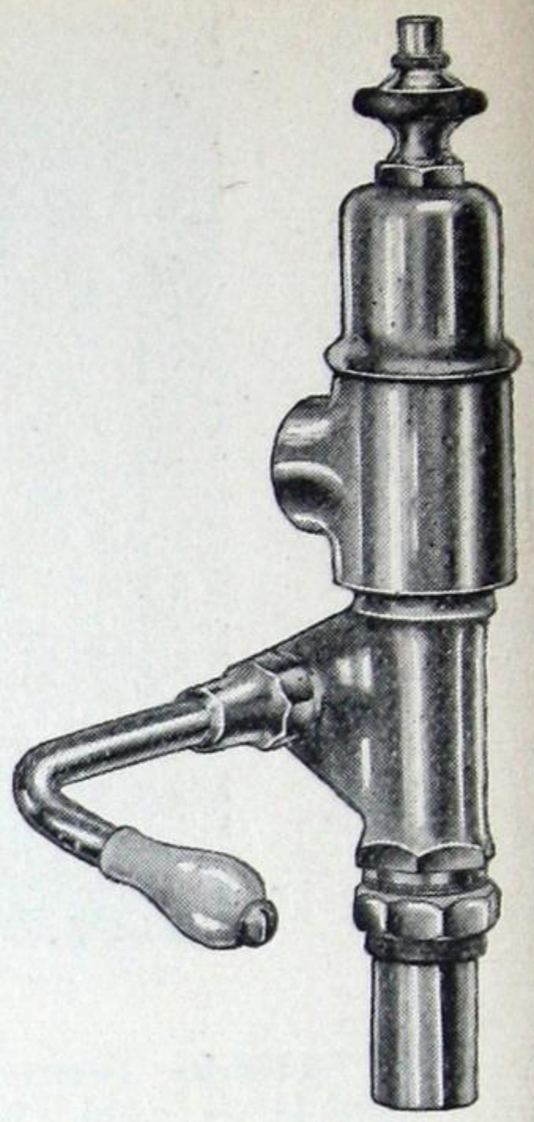


Plate G1887.b

For use on Direct pressure or Tank Systems.
Made in sizes 1″, 1¼″, 1½″, tapped for Iron Pipe.
1″ for Urinals.
1¼″ and 1½″ for Water Closets.
May also be used on Slop Sinks.
Tank Pressures 6 to 150 feet.
Direct Pressures 10 to 80 pounds.
About three gallons of water is generally used at each Flush.
When ordering always give head or pressure for which Flushometer is required.

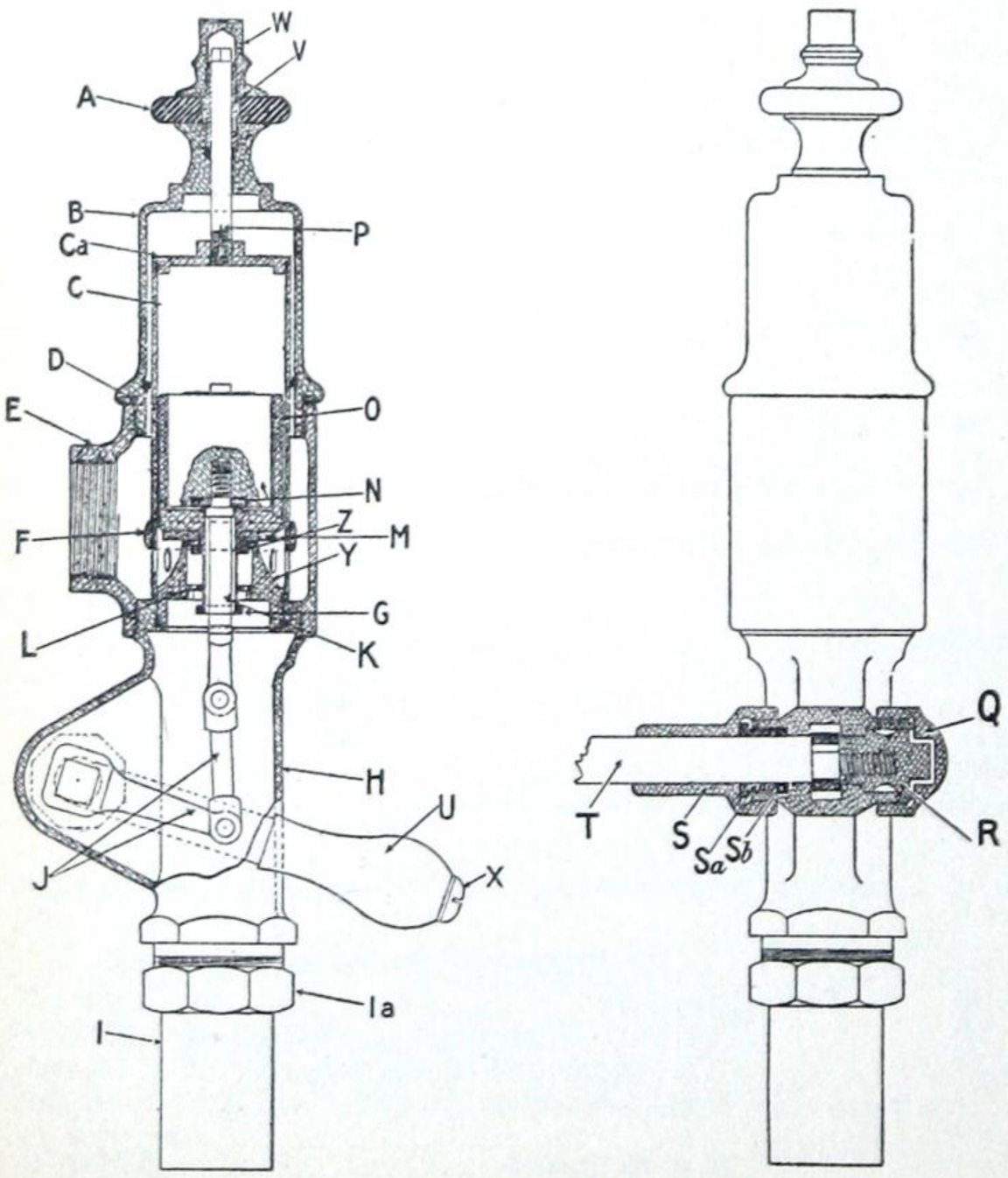


Plate G1887.c

LIST OF PARTS.

A. Rubber Bumper.
B. Cap.
C. Valve Cylinder.
C.a Valve Cylinder Cap.
D. Rubber Cap Washer.
E. Inlet Tee.
F. Regulating Ring.
G. Controller Nut.
H. Valve Body.
I. Slip Tail Piece.
I.a Coupling Nut.
J. Links.
K. Relief Valve Stem.
L. Controller.
M. Main Valve Washer.
N. Relief Valve Weight & Washer.
O. Main Valve Piston.
P. Regulating Screw.
Q. Handle Bar Cap.
R. " " Nut.
S. Stuffing Box
S.a " " Gland.
S.b Handle Bar Packing.
T. Handle Bar or Lever.
U. Porcelain Handle.
V. Packing Nipple for Regulating Screw.
W. Acorn Top.
X. Screw for Porcelain Handle.
Y. Main Valve Seat.
Z. " " Washer Nut

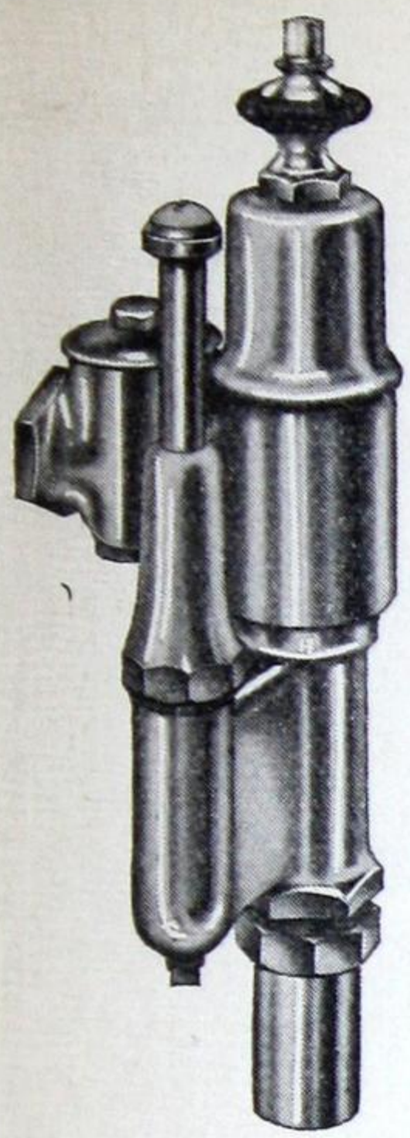


Plate G1888.a

"KENNEY" PUSH BUTTON FLUSHOMETER.

Price, Each.....$20.00

If without Integral Stop, deduct 4.00

V.a Stop Cock Body, Integral with E.
V.b Stop Cock Plug.
V.c Plug Retaining Ring.
V.d Stop Cock Bonnet.
H.B. Valve Body.
R.B. Link Fulcrum.
S.B. Stuffing Box.
T.B. Push Button Stem.
U.B. Push Button.

All other parts same as shown on page 254.

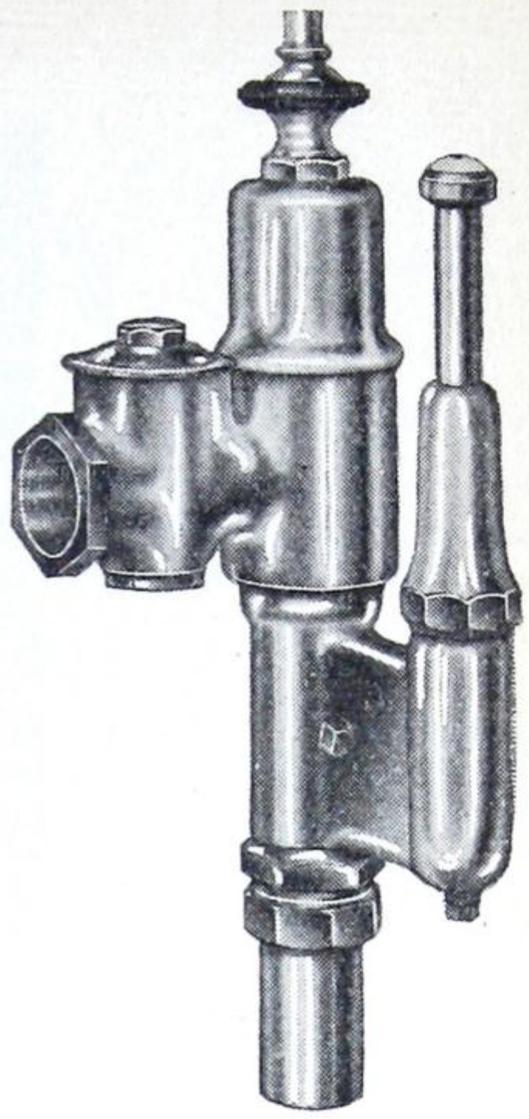


Plate G1888.b

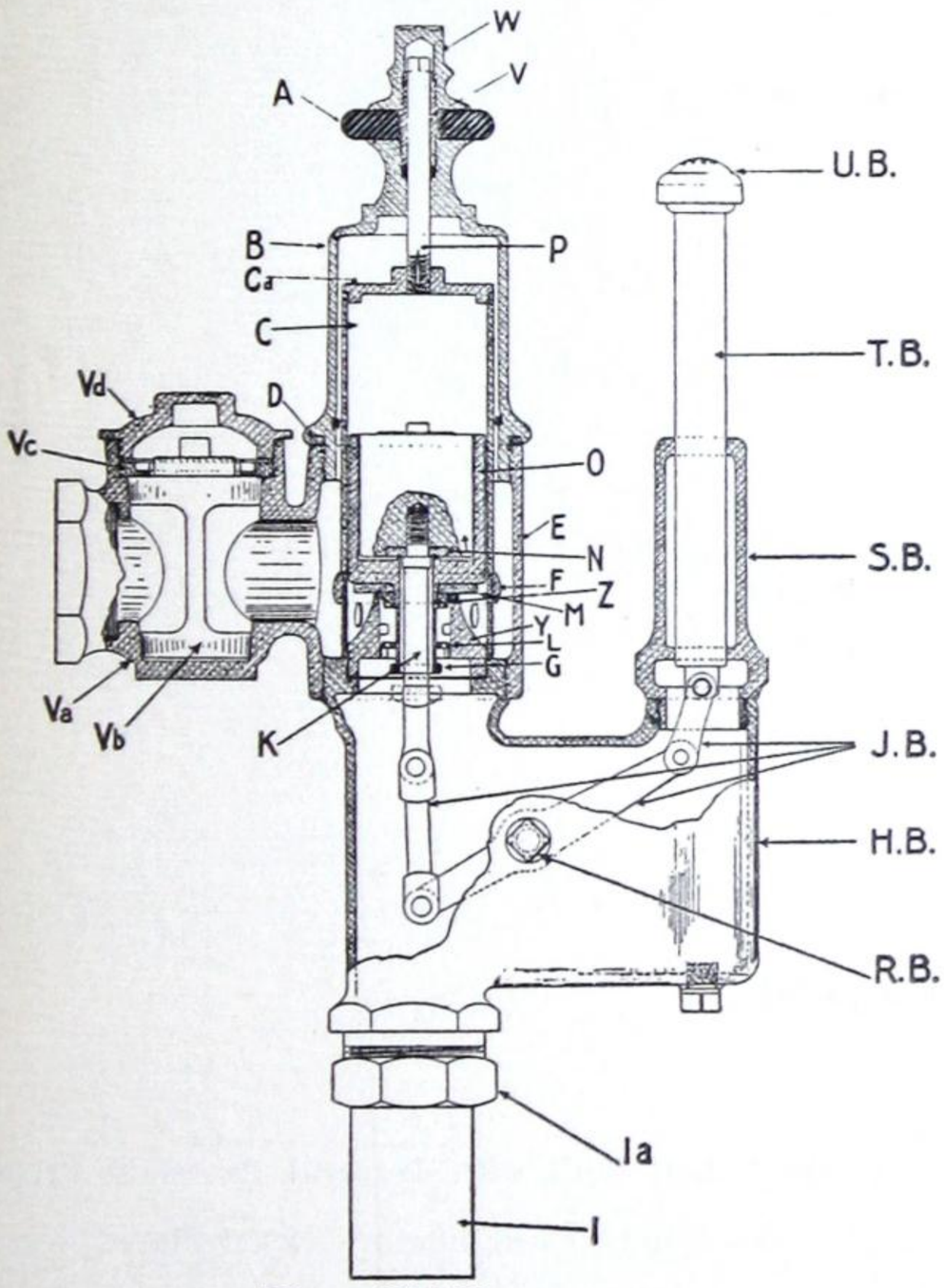


Plate G1888.c

OPERATION OF "KENNEY" FLUSHOMETER.

Pull Handle or Push Button to full extent and let go.

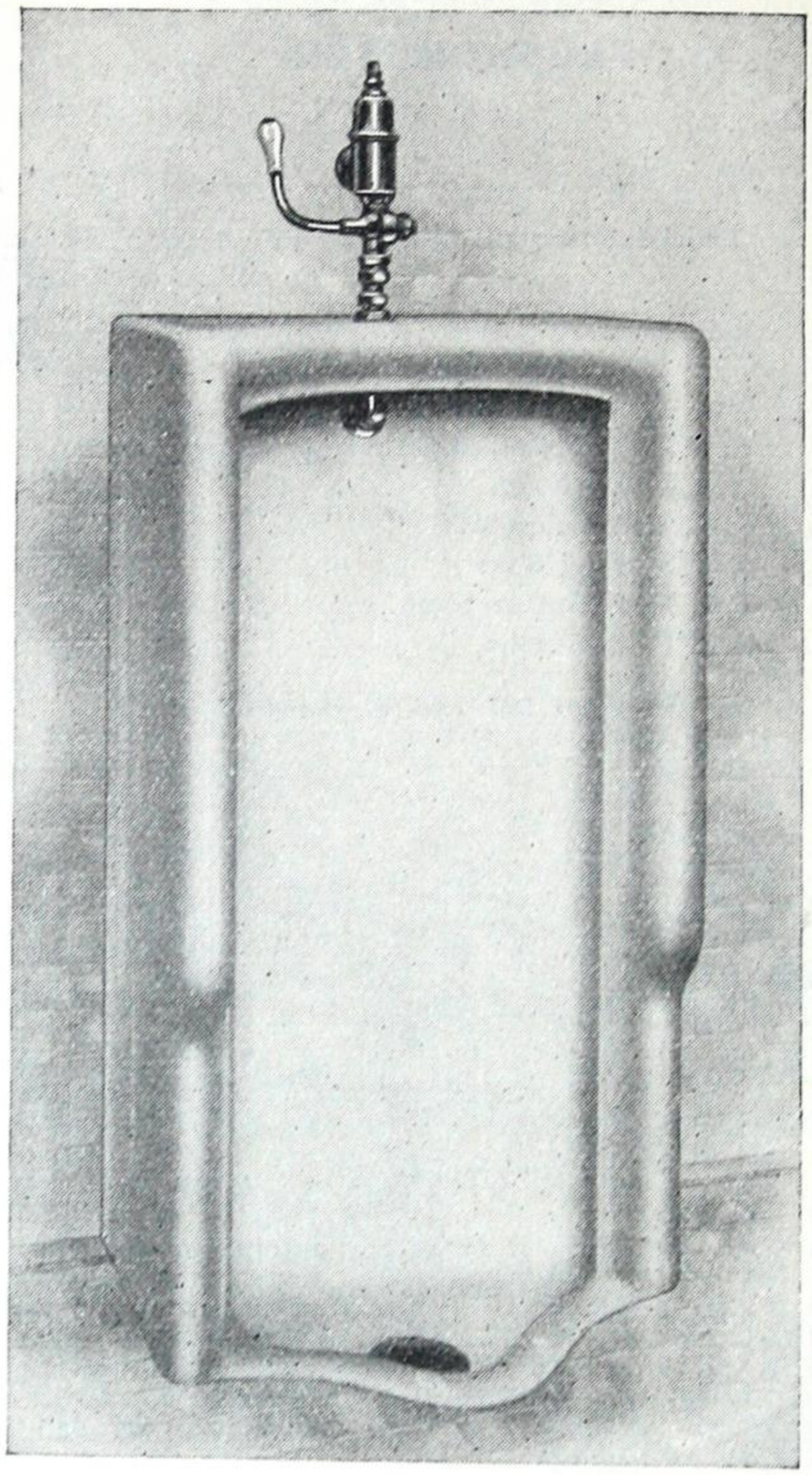
When Push Button "U B" is depressed or Handle "U" is raised the link motion immediately lifts Relief Valve Weight "N," allowing water in Valve Cylinder "C" to escape through opening in Relief Valve, and when the shoulder on Stem "K" reaches Controller Nut "G," which is attached to Main Valve Piston "O," it raises Piston to its highest point, and carries with it Controller "L."

Upon releasing Handle or Push Button, Relief Valve Weight "N" seats itself, and Main Valve Piston "O" slowly closes, and the duration of closing is governed by the amount of water passing through slot in regulating screw "P." The Spindle of regulating Screw passing out, as it does, through Cap "B," and made water-tight by means of packing held in place by Packing Nipple "V," the turning of this screw up or down may be done when under pressure by simply removing Acorn Top "W."

The amount of water supplied is governed by Regulating Ring "F," which may be raised or lowered, opening or closing holes drilled near the Bottom of Valve Cylinder "C."

By section of Flushometer it will be seen that Controller Ring "L" will start to throttle opening through Main Valve Seat "Y," somewhat before Main Valve reaches seat. The action of this Controller gives to the Bowl what is commonly called the after-flush, which causes the Closet Trap to be filled and properly sealed.

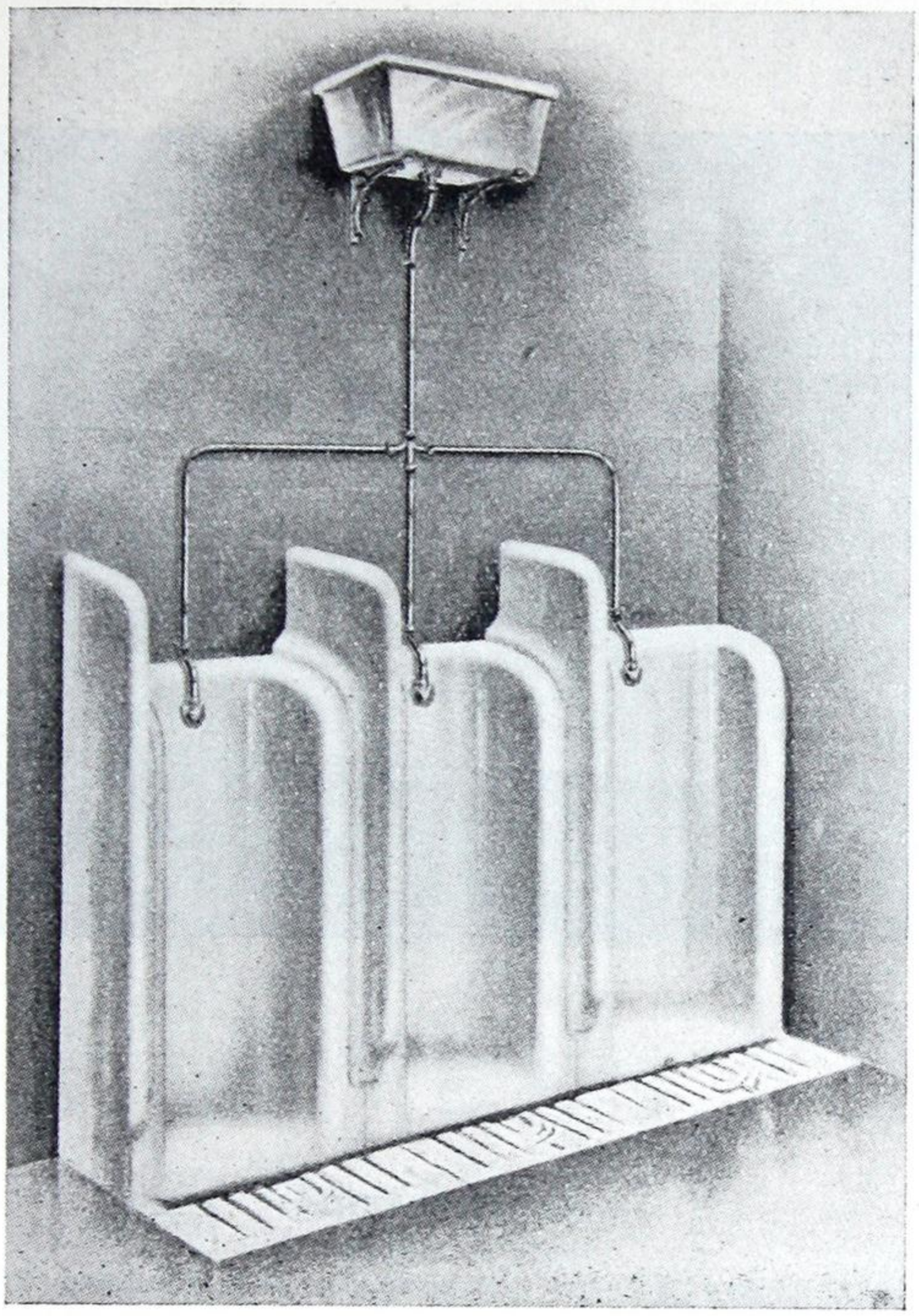
Although the Kenney Flushometer at first sight may seem rather complicated, it will be found to be extraordinarily simple in action upon thorough investigation. After a test of over 20 years it proves itself to-day to be without a peer for simplicity and durability.



SPECIFICATION:

Plate G1889.a—Robertson's Kingdon Solid Porcelain Urinal Stall with Integral Porcelain Front Shields, glazed white, fitted with Nickel-Plated "Kenney" Lever Handle Flushometer, Nickel-Plated Brass Spreaders, and Nickel-Plated Brass Outlet Strainer.

	18"	24"
List price, as described, each	$60.50	$67.00



SPECIFICATION:

Plate G1889.b—Robertson's "Imperial" White Porcelain Urinal Range, with back and channel n one solid piece, high divisions, 12″ grooved tread plates, automatic White Porcelain Cistern, with Porcelain Enameled cast-iron Bracket, Nickel-Plated Brass Flush Pipe and Spreaders, and Nickel-Plated Dome Outlet Strainer complete.

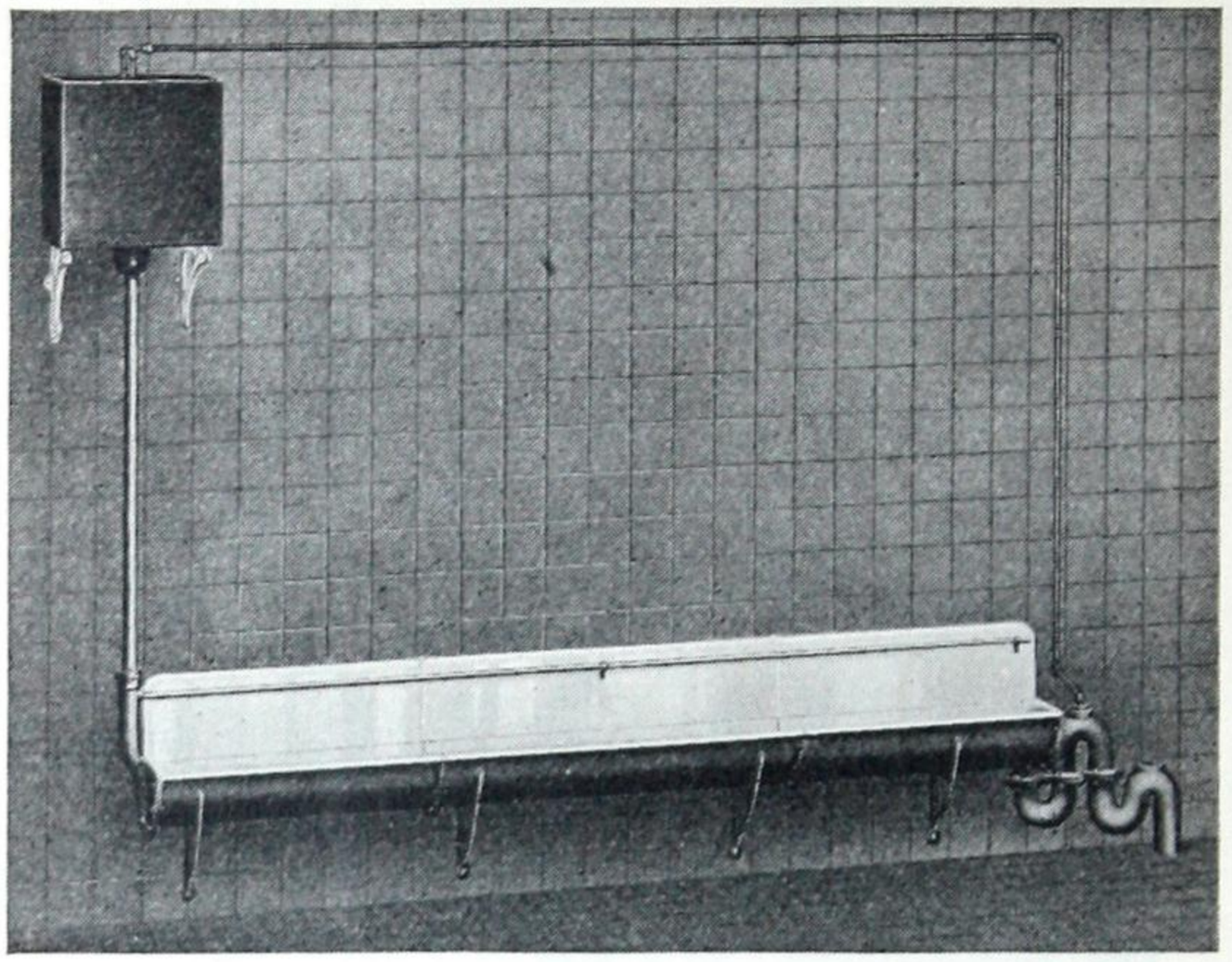
APPROXIMATE MEASUREMENTS.

Centres, 25″, Height of Backs from Floor, 43¾″, Height over divisions, 57¾″, Wall to Front of Partition, 16″.

PRICES.

Number of Stalls to Range	2	3	4	5	6
Capacity of Tanks, gallons	2	2	3	3	4
Price, as Described	$185.00	$260.00	$335.00	$410.00	$485.00

Note.—Ranges above 6 are supplied with two tanks. The price of ranges of 7 and upwards may be made up from above list. For example, a range of 8 would be similar to price for 2 ranges of 4. Outlets may be placed in end stalls or centre, as desired. One Outlet provided for every 3 or 4 stalls.

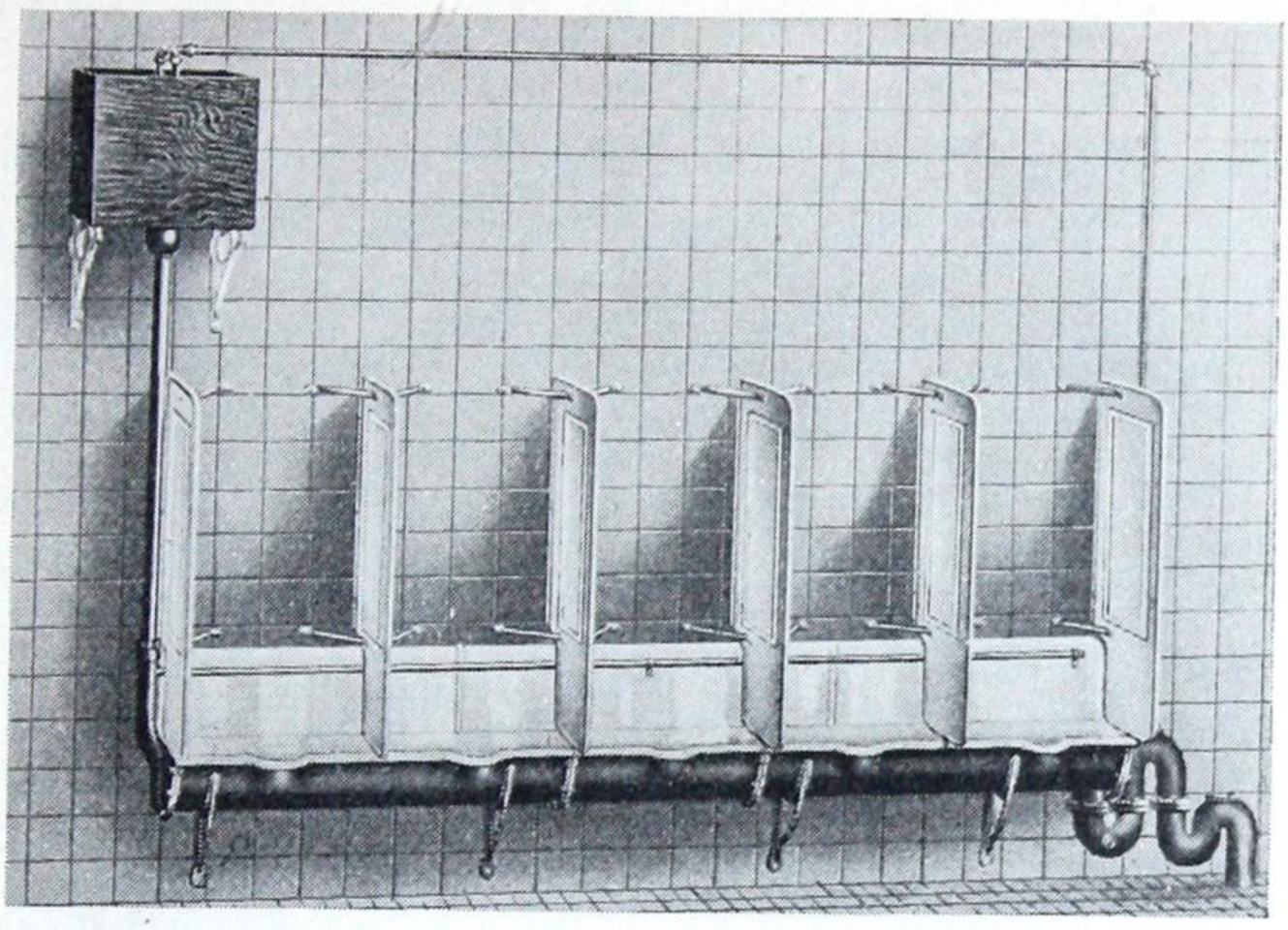


SPECIFICATION:

Plate G1890.a—Robertson's "Monarch" Porcelain Enameled Automatic Syphon Eduction Urinal with Copper-lined Wood Tank, Galvanized Flush and Air Pipes and Perforated Brass Wash-Down Pipe Fitted along Back.

Length Urinal in Feet.....	4	5	6	7	8	9
Price, as Described.....	$106.50	$121.00	$135.50	$150.00	$164.50	$179.00
" With Pressed Steel Partitions 24" apart, as shown in G1890.b.....	129.00	.....	165.75	.....	202.50	.....

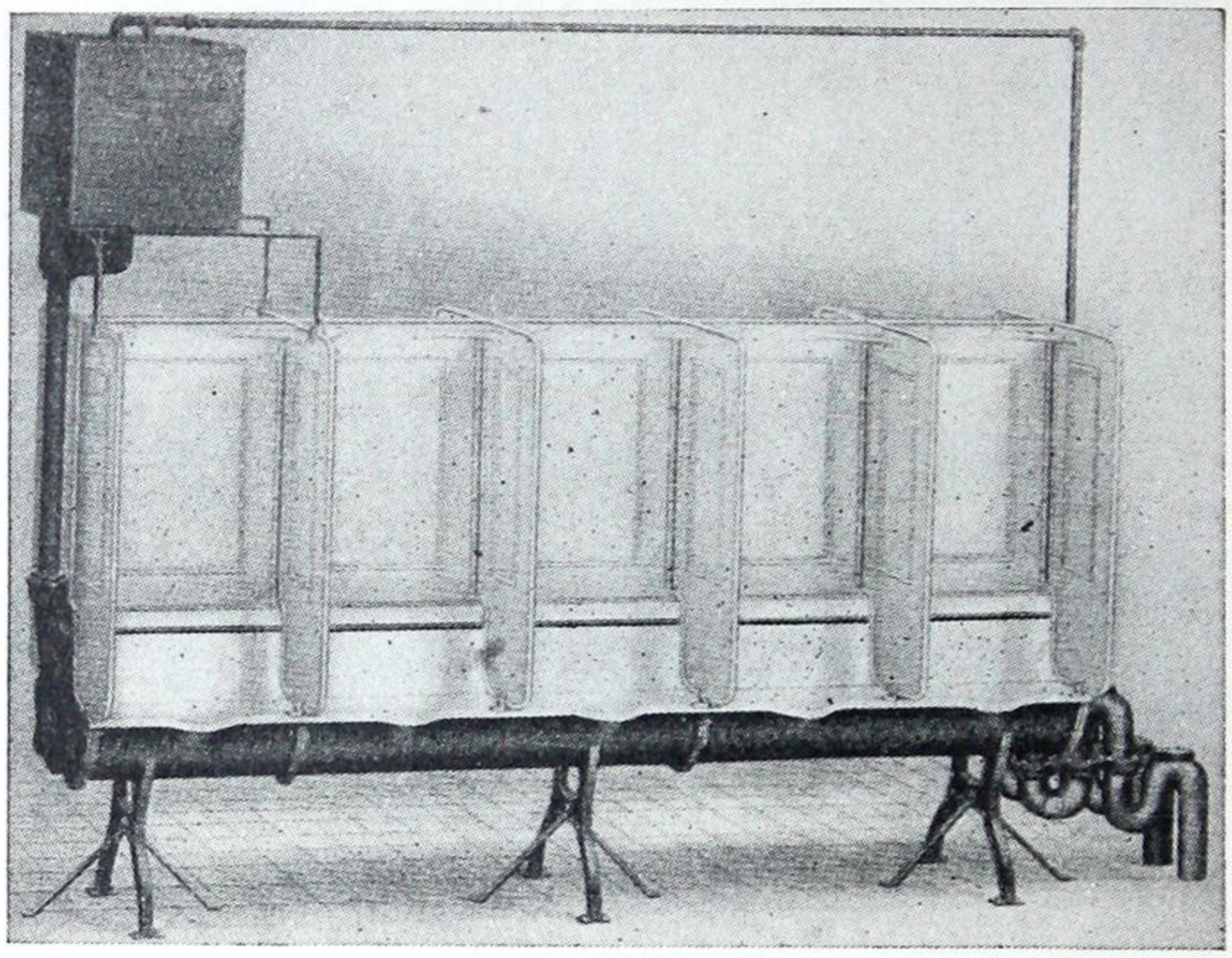
Length Urinal in Feet.....	10	11	12	14	15	16
Price, as Described.....	$193.50	$208.00	$222.50	$251.50	$266.00	$281.00
" With Pressed Steel Partitions 24" apart, as shown in G1890.b.....	239.00	.....	275.75	312.50	.....	349.00



SPECIFICATION:

Plate G1890.b—Robertson's "Monarch" Porcelain Enameled Automatic Syphon Eduction Lipped Urinal with Copper-lined Wood Tank, Galvanized Flush and Air Pipes, Pressed Steel Partitions 24″ apart, and Perforated Brass Wash Down Pipe, fitted along Back.

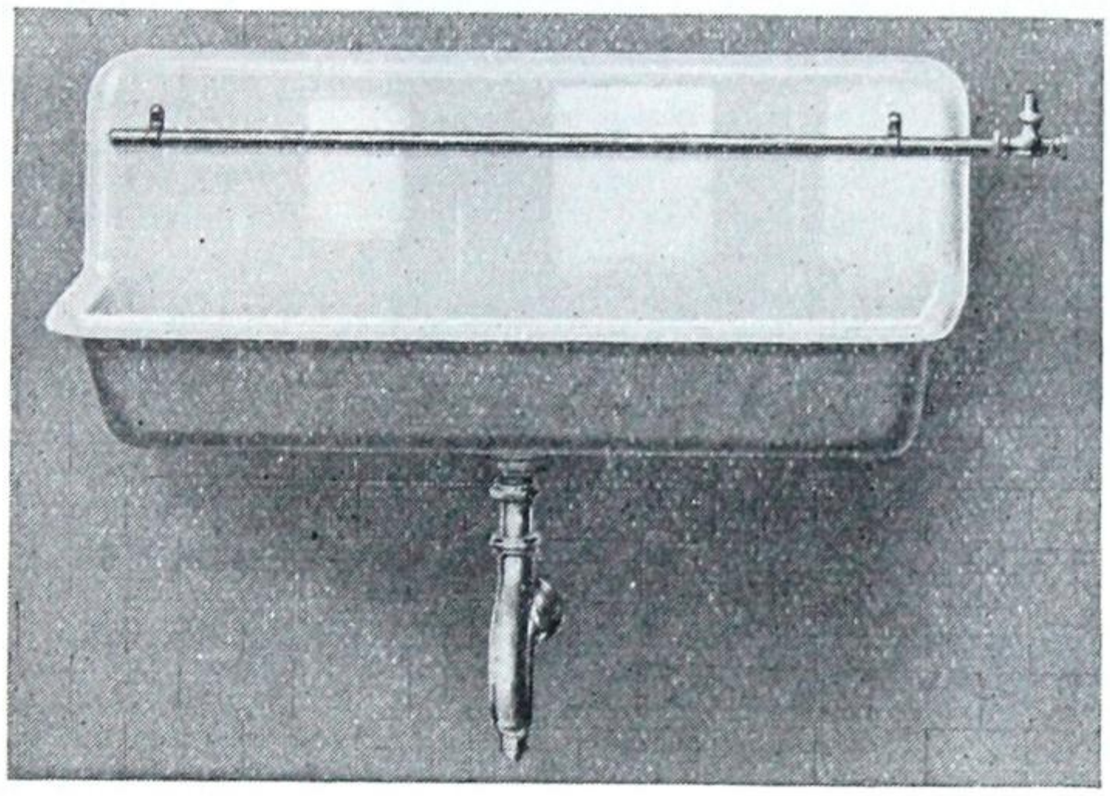
Length Urinal in Feet.....	4	6	8	10	12	14	16
Price, as Described.....	$138.25	$179.50	$220.75	$262.00	$303.25	$344.50	$385.75
" Less Partitions.....	115.50	149.00	182.75	216.50	250.00	283.75	317.50



SPECIFICATION:

Plate G1890.c—Robertson's "Monarch" Porcelain Enameled Automatic Syphon Eduction Lipped Double Urinal, with Copper-lined Wood Tank, Galvanized Flush and Air Pipes, Pressed Steel Partitions 24" apart, Backs, and Perforated Brass Wash-Down Pipes, fitted along Backs.

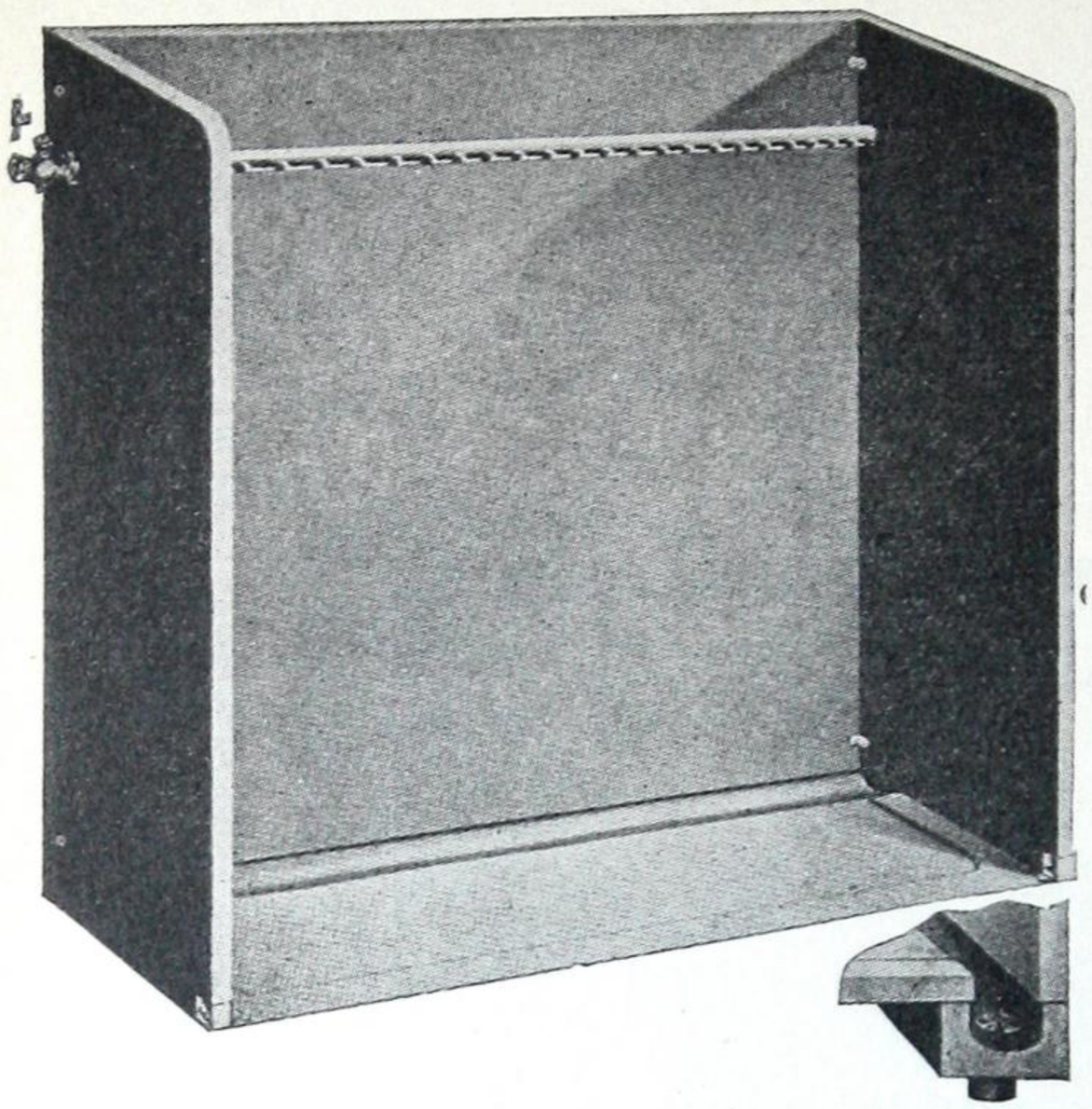
Length of Urinal in Feet.....	4	6	8	10	12	14	16
Price, as Described.....	$282.00	$382.00	$472.00	$562.00	$652.00	$743.00	$833.00
" " (Without Lip)...	273.00	354.00	435.00	516.00	597.00	678.00	759.00



SPECIFICATION:

Plate G1890.d—Robertson's "Monarch" Porcelain Enameled Roll Rim Urinal with Integral Back, supported on concealed Wall Hanger, Brass Beehive Strainer, Perforated Brass Wash Down Pipe, Loose Key Stop and 1½" Nickel-Plated Trap.

Length Urinal in Feet.....	2	2½	3	3½	4	5	6
Price, as described.....	$25.00	$28.00	$31.00	$33.00	$36.00	$44.00	$53.00
" " (With Lip).....	29.00	.....	40.00	43.00	45.00	.....	.....



SPECIFICATION:

Plate G1891.a — Robertson's Perfection Slate Urinal with 1″ end Pieces, 1″ Backs, 2″ Countersunk Base with separate Slate Gutter, 6″ x 3″, with Nickel-Plated Brass Outlet Strainer Nickel-Plated Brass Perforated Wash Down Pipe with Loose Key Stop-Cock Nickel-Plated Angles and Clamps with Bolts, Screws and Wall Anchors.

DIMENSIONS:—Depth of Ends, 1′-8″, Bases, 1′-″8.

This Gutter arrangement is commended for Sanitary reasons, as both the Back and Base extend slightly over the edges and the drip must fall directly into the Gutter.

Backs will be supplied in Sections of 2 feet. Bases and Gutters in Sections not exceeding 6 feet in length. Wash Down Pipe is usually placed one foot from Top of Urinal.

Slate not drilled for Angles or Clamps.

LENGTH IN FEET (Over all)		2	4	6	8	10	12	14
Price, Complete as Described.	4′-6″ high ...	$33.00	$49.00	$64.00	$80.00	$ 95.00	$111.00	$125.00
" " " "	5′-0″ " ...	37.00	56.00	73.00	92.00	109.00	128.00	145.00
" " " "	5′-6″ " ...	39.00	59.00	77.00	97.00	115.00	135.00	153.00
Price, for Slate only.....	4′-6″ " ...	26.00	39.00	52.00	65.00	78.00	91.00	104.00
" " " "	5′-0″ " ...	30.00	46.00	61.00	77.00	92.00	108.00	123.00
" " " "	5′-6″ " ...	32.00	49.00	65.00	82.00	98.00	115.00	131.00

SPECIFICATION:

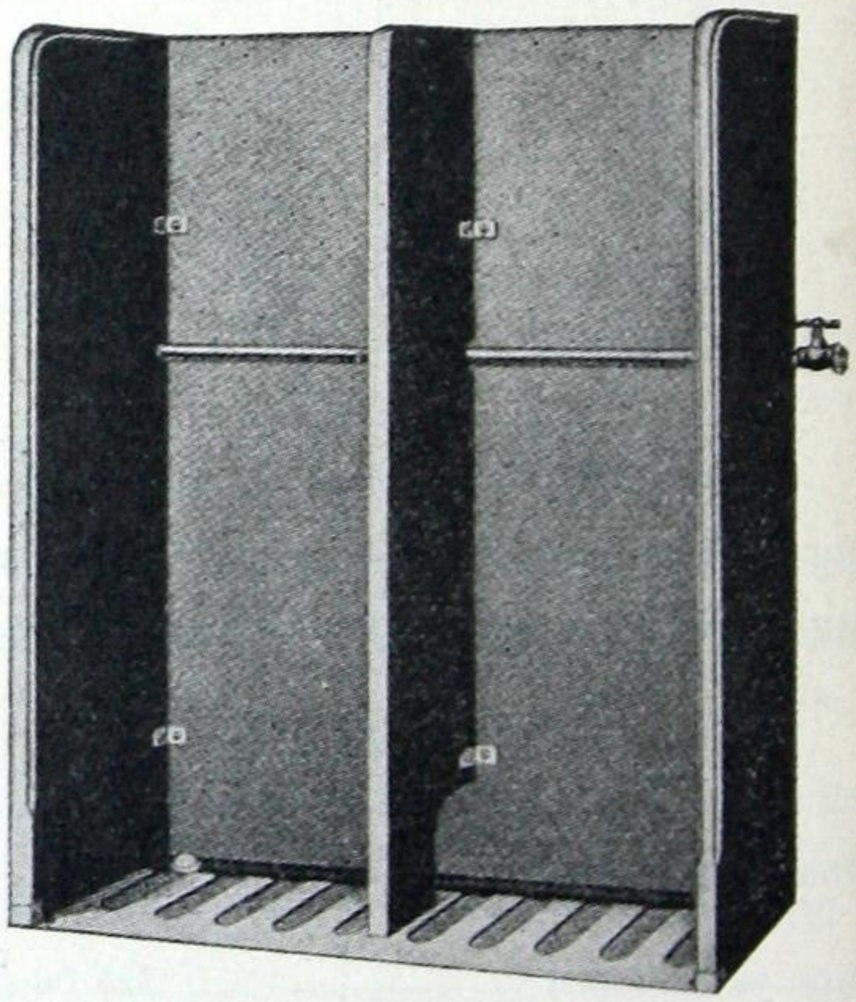
Plate G1891.b—Robertson's Perfection Slate Urinal with 1″ Ends, 1″ Partitions, 1″ Backs, and 1″ Countersunk Base with Integral Gutter, Nickel Plated Brass Outlet Strainer Nickel-Plated Brass Perforated Wash-down Pipe with Loose Key Stop-Cock, Nickel-Plated Angles and Clamps with Bolts, Screws and Wall Anchors.

DIMENSIONS:—Depth of Ends and Bases, 1′-8″; Depth of Partitions, 1′-6″; Centre to Centre of Partitions, 2′-0″.

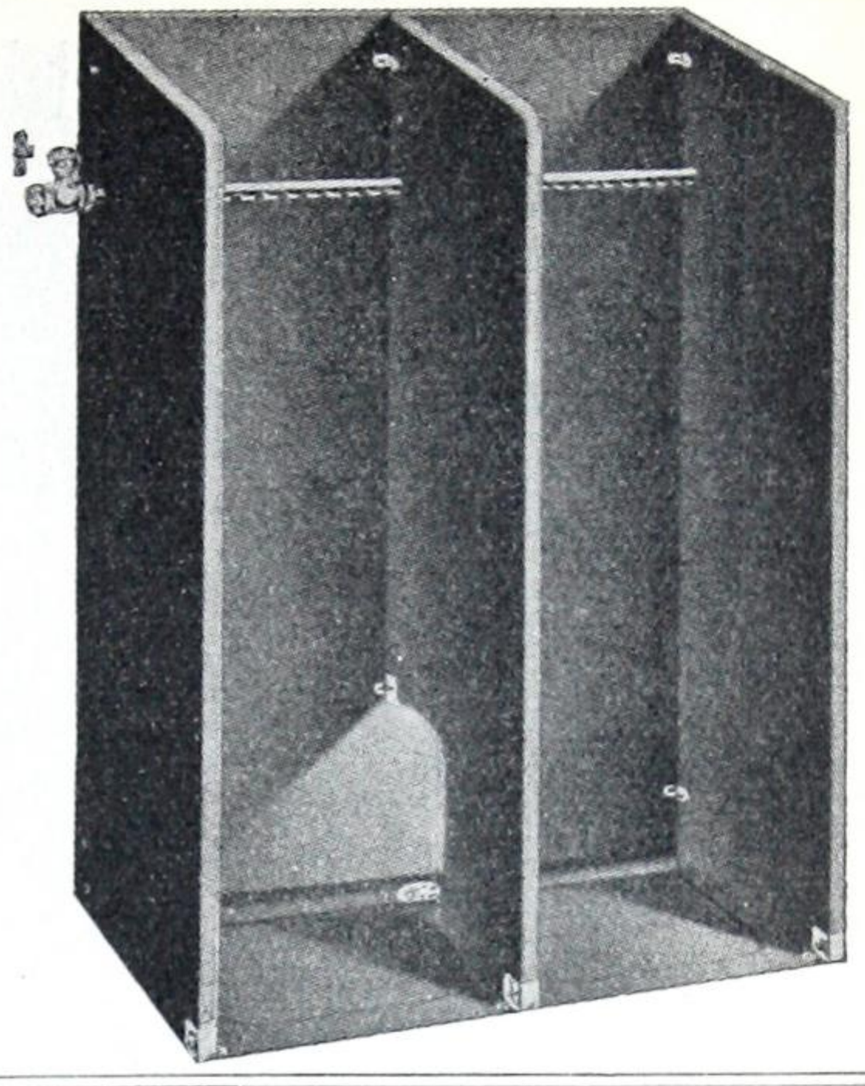
Backs will be supplied in Sections of 2′-0″, and Bases in Sections not exceeding 6′-0″ in length.

Wash-down Pipe is usually placed 1′-6″ from Top of Urinal.

Slate not drilled for Angles or Clamps.



NUMBER OF STALLS.....		1	2	3	4	5	6
Price, Complete as Described.	5′-0″ high	$37.00	$63.00	$87.00	$114.00	$138.00	$163.00
" " " "	5′-6″ "	39.00	66.00	92.00	120.00	146.00	172.00
Price, for Slate only.....	5′-0″ "	30.00	52.00	73.00	95.00	116.00	138.00
" " " "	5′-6″ "	32.00	55.00	78.00	101.00	124.00	147.00



SPECIFICATION:

Plate G1891.c—Robertson's Perfection Slate Urinal with 1″ Ends, 1″ Partitions, 1″ Backs, and 2″ Countersunk Base with Integral Gutter, Nickel-Plated Brass Outlet Strainer, Nickel-Plated Brass Perforated Wash-down Pipe, with Loose Key Stop-Cock, Nickel-Plated Angles and Clamps with Bolts, Screws and Wall Anchors.

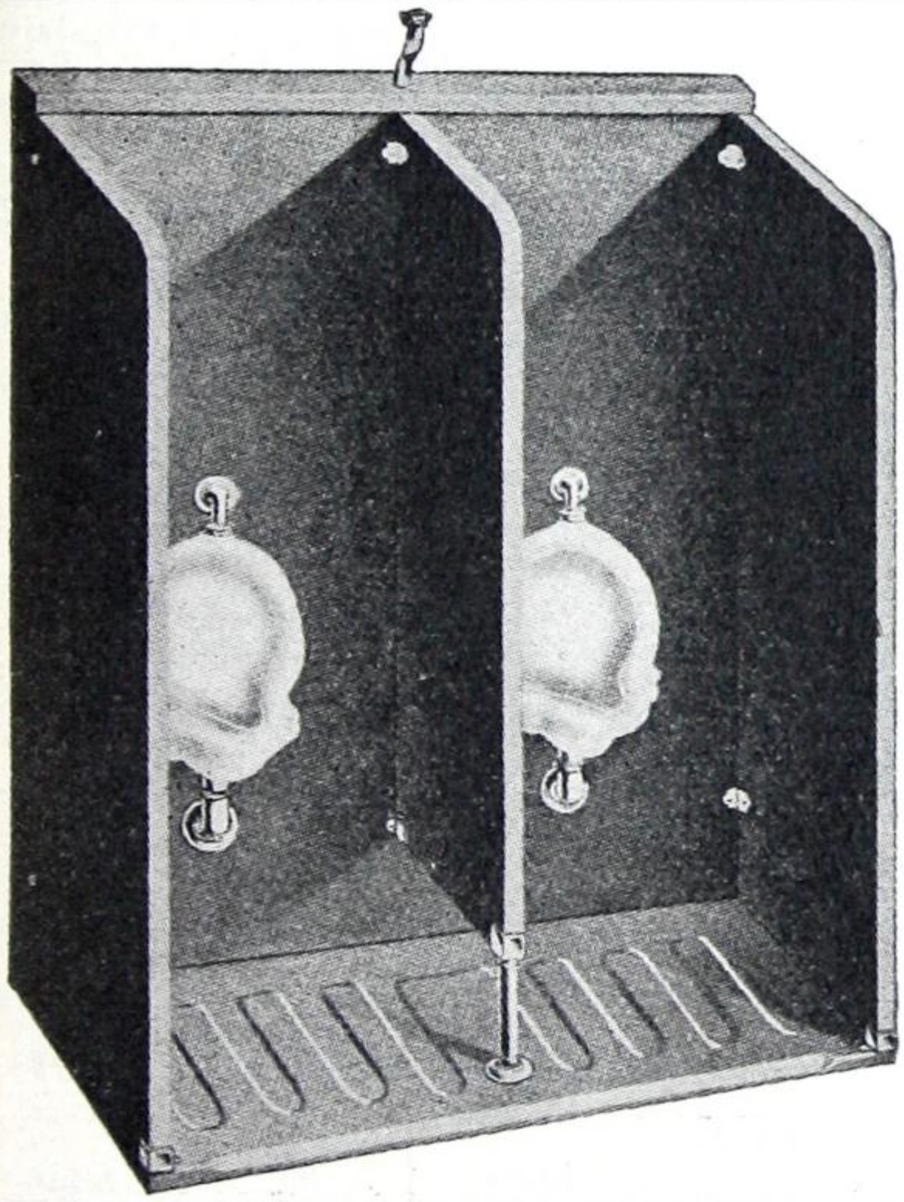
DIMENSIONS:—Depths of Ends, Partitions and Bases, 1′-8″; Centre to Centre of Partitions, 2′-0″.

Backs will be supplied in Sections of 2′-0″; Bases in Sections not exceeding 6′-0″ in Length.

Wash-down Pipe is usually placed 1′-6″ from Top of Urinal.

Slate not Drilled for Angles or Clamps.

NUMBER OF STALLS.....		1	2	3	4	5	6
Price, Complete, as Described.	5′-0″ high....	$38.00	$63.00	$89.00	$114.00	$140.00	$165.00
" " " "	5′-6″ " ...	40.00	67.00	95.00	122.00	149.00	176.00
Price, for Slate only.....	5′-0″ " ...	30.00	52.00	74.00	96.00	118.00	140.00
" " "	5′-6″ " ...	32.00	56.00	80.00	104.00	127.00	151.00



SPECIFICATION:

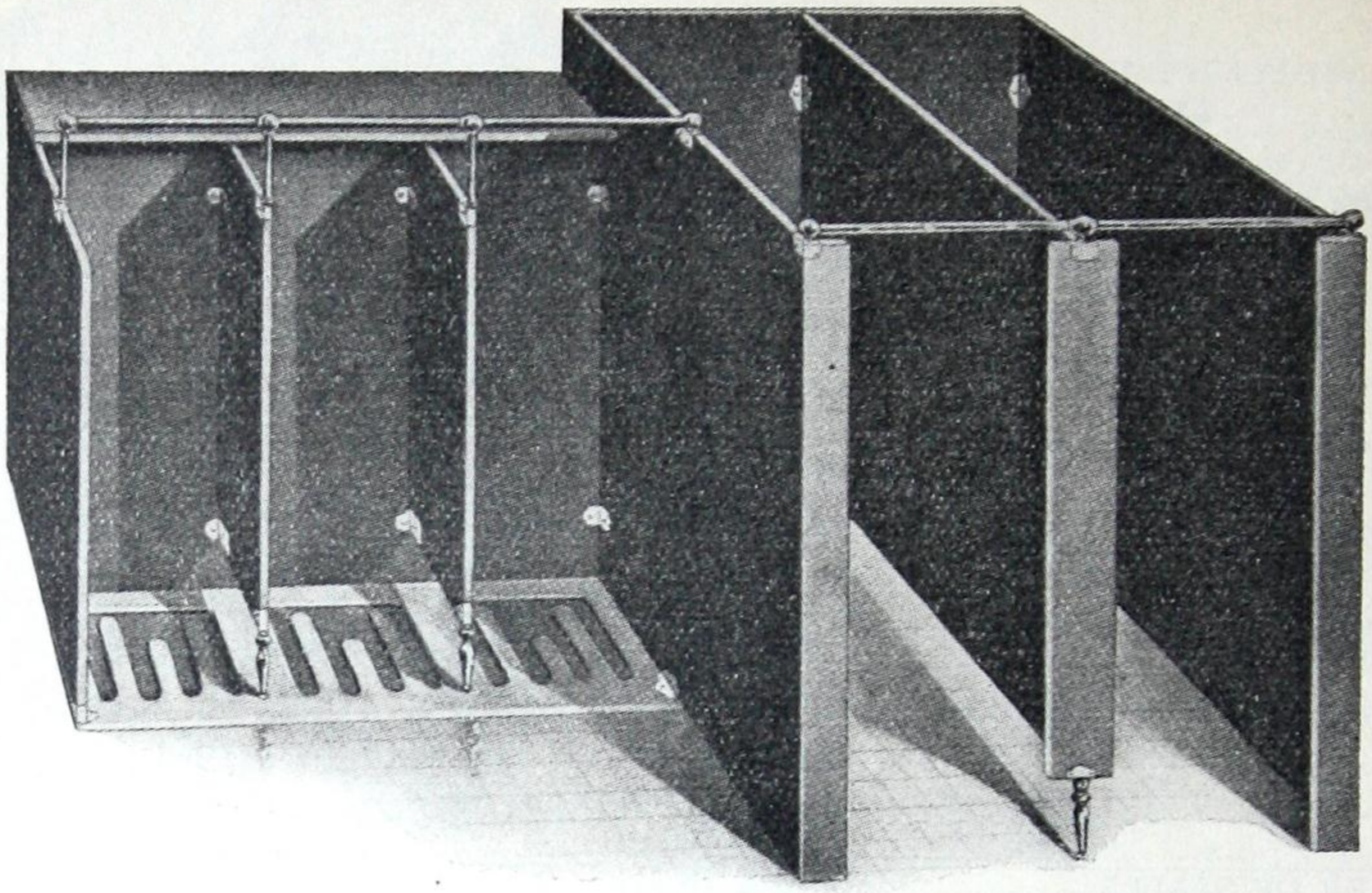
Plate G1891.d—Robertson's Perfection Slate Urinal with 1″ Ends, 1″ Partitions, 1″ Backs, 8″ Capping covering 6″ working space for Connections, and 2″ Countersunk Base with Integral Gutter, Nickel-Plated Brass Floor Outlet Strainer, 12″ End Bottom Standard, G1406, Nickel-Plated Angles and Clamps, with Bolts, Screws and Wall Anchors.

DIMENSIONS:—Depth of Ends, Outside, 2′-3″; Inside, 1′-8″. Partitions, 1′-6″, and Bases 1′-8″. Centre to Centre of Partitions, 2′-0″.

Porcelain Urinals, with Connections, not included in Price.

Slate not drilled for Angles or Clamps.

NUMBER OF STALLS.....		1	2	3	4	5	6
Price, Complete as Described.	5′-0″ high...	$43.00	$68.00	$93.00	$118.00	$144.00	$169.00
" " " "	5′-6″ " ..	47.00	74.00	101.00	128.00	155.00	182.00
" " without 6″ working Space.....	5′-0″ " ..	34.00	58.00	82.00	106.00	130.00	154.00
	5′-6″ " ..	36.00	62.00	88.00	114.00	140.00	166.00
Price, for Slate only.....	5′-0″ " ..	39.00	60.00	81.00	102.00	124.00	145.00
" " " "	5′-6″ " ..	43.00	66.00	89.00	112.00	135.00	158.00
" " " " without 6″ working Space.	5′-0″ " ..	30.00	50.00	70.00	90.00	110.00	130.00
	5′-6″ " ..	32.00	54.00	76.00	98.00	120.00	142.00



SPECIFICATION:

Plate G1892.—Robertson's Perfection Slate Urinal and Closet Stall Combination, Urinal with 1″ End, 1″ Partitions, 1″ Back, 14″ Capping covering 12″ working space for Connections, and 2″ Countersunk Base with Integral Gutter; Nickel-Plated Brass Floor Outlet Strainer, 12″ End Bottom Standards, Nickel-Plated Angles and Clamps with Bolts, Screws and Wall Anchors; 1″ Closet Partitions, 1″ Backs and 1¼″ Stiles, with 12″ Tee Bottom Standard and Nickel-Plated Top Standards with Rail, Nickel-Plated Angles and Clamps, with Bolts, Screws and Wall Anchors.

DIMENSIONS:—Height of Urinal Stalls, 5′-6″; Depth of End, 3′-1″; Base, 2′-0″; Partitions, 1′-8″; Centre to Centre of Partitions, 2′-0″; 14″ Capping covering working space of 12″.

Height of Closet Stalls 6′-6″; Width 2′-6″ Centre to Centre of Partitions; Depth 4′-0″.

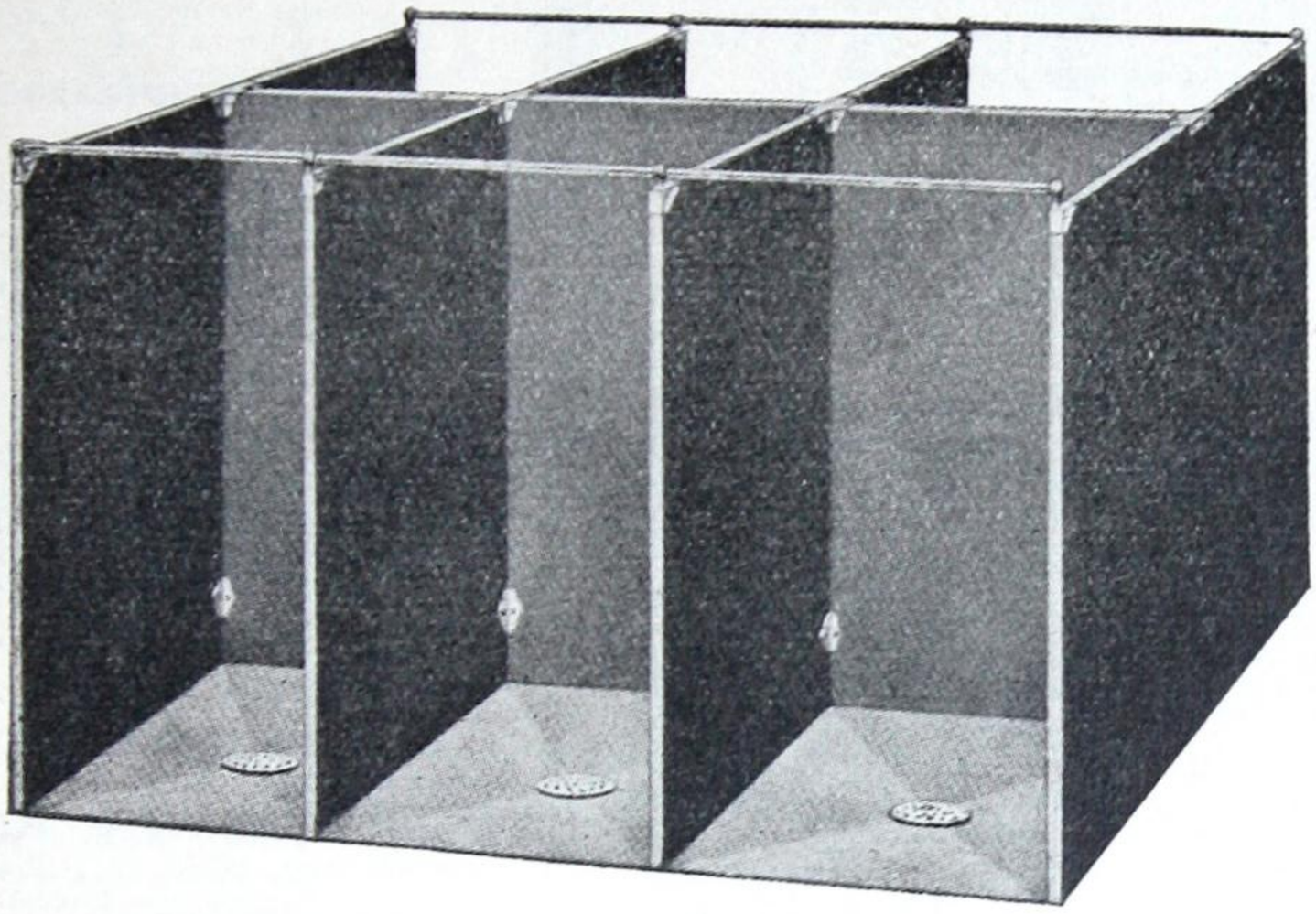
Slate not drilled for Angles or Clamps.

Note.—For style of Top and Bottom Standards, see page 156.

	Complete as Described.	Slate only.
Price with three Urinal Stalls, two Closet Stalls, with Nickel-Plated Angles, Clamps, Top Rails and Standards, Bottom Standards, Urinal Outlet Strainer, Bolts, Screws and Wall Anchors.....	$282.00	$238.00
Same as above except without Working Space at Back of Urinals.....	266.00	222.00

	With Working Space.		Without Working Space.	
	Complete as Described.	Slate only.	Complete as Described.	Slate only.
Add or Deduct for each Urinal Stall.....	$24.50	$17.00	$22.50	$15.00
" " " " " Closet Stall.....	52.00	42.50	52.00	42.50

For Wood Closet Doors with Indicator Latch, Door Stops and Spring Hinges, Add.....Each $28.50



SPECIFICATION:

Plate G1893.—Robertson's Perfection Slate Shower Bath Stalls, with 1″ Backs, 1″ Ends, 1″ Partitions, and 2″ Countersunk Base with Nickel-Plated Outlet Strainer, Angles, Clamps, Curtain Rail, Screws, Bolts and Wall Anchors.

DIMENSIONS:—Height from Floor, 6′-6″; Depth, 3′-0″; Centre to Centre of Partitions, 3′-0″.

Slate not Drilled for Angles or Clamps.

RANGE OF.....	1	2	3	4	5	6
Price, as Described—Double Stalls.....	$163.00	$270.00	$379.00	$487.00	$595.00	$703.00
" Slate only—Double Stalls.....	146.00	241.00	337.00	432.00	528.00	623.00
" as Described—Single Stalls.....	90.00	153.00	215.00	278.00	341.00	404.00
" Slate only—Single Stalls.....	82.00	139.00	195.00	252.00	309.00	366.00

Duck Curtains, Each $3.25

Note.—Prices for Single Stalls include Backs, Ends, Partitions and Base.

All Backs, Ends and Partitions for Shower Bath Stalls extend to and are embedded 1″ in Cement Floor.



SPECIFICATION:

Plate G1894.a—Robertson's Improved Porcelain Roll Rim Kitchen Sink, with Integral Back and Legs, Glazed inside and out, with Nickel-Plated Plug, Coupling and Rubber Stopper.

	White Porcelain
List Price, 24″ x 22″ x 7″.....	$44.00
" " 30″ x 22″ x 7″.....	50.00
" " 36″ x 24″ x 7″.....	56.00
" " 42″ x 24″ x 7″.....	68.00
If with "Kingdon" sliding box faucets, add.....pair	6.50
If with 1½-inch N.-P. "Whirlpool" trap, add.....	7.30
If with iron legs deduct.....pair	6.50

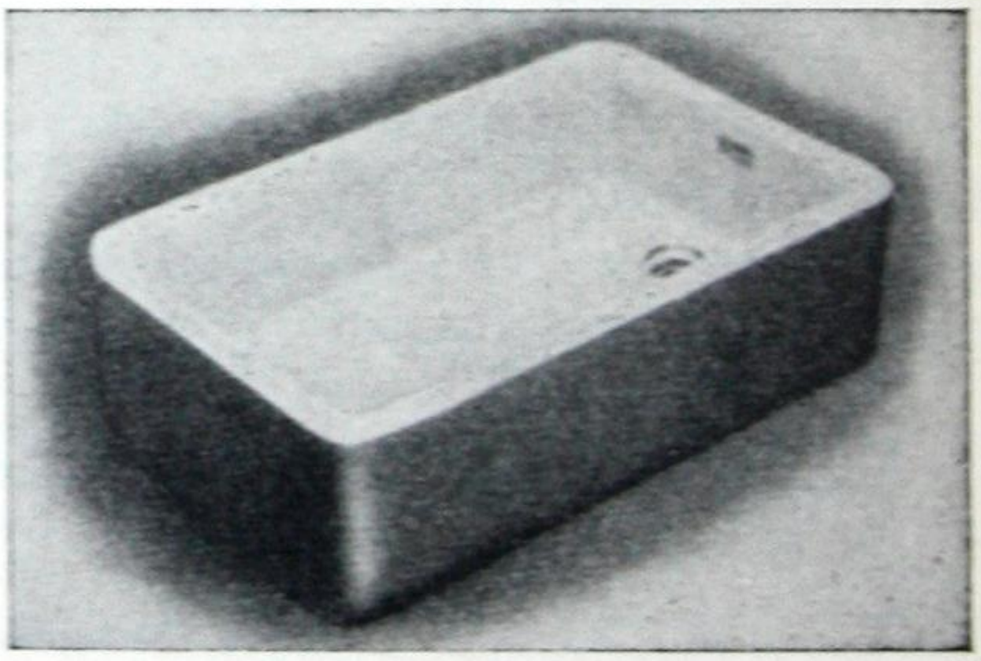
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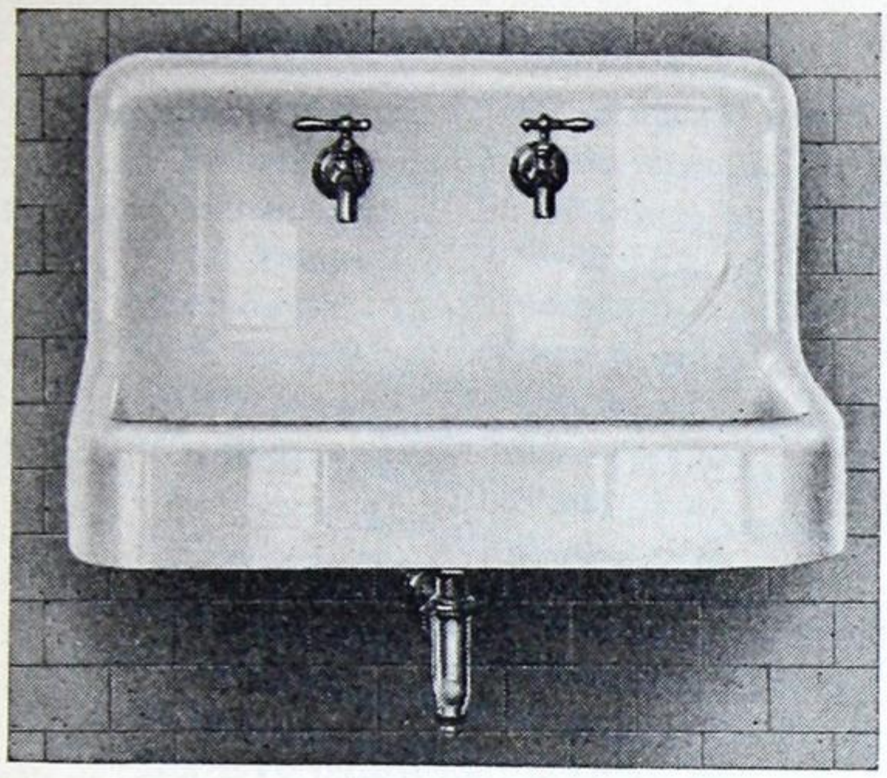
Plate G1894.b—Robertson's Improved Porcelain Flat Rim Pantry Sink, with Nickel-Plated Plug and Coupling and Rubber Stopper. Glazed white inside.

Can be furnished with or without Overflow.

List Price, 20″ x 14″ x 5″.....	$ 9.50
" " 23″ x 16″ x 6″.....	12.00
" " 24″ x 17″ x 6″.....	13.00
" " 28″ x 17″ x 6″.....	15.00
" " 28″ x 17″ x 10″.....	17.50
" " 30″ x 20″ x 7″.....	17.50
" " 30″ x 20″ x 10″.....	21.00

If with Nickel-Plated Overflow Grate and Coupling.....Add $2.00





SPECIFICATION:

Plate G1895.a—Robertson's "Monarch" Porcelain Enameled Sink Combination, with Sink, Apron and Back all in one piece, supported on concealed Wall Hanger. Fitted with Nickel-Plated Quick Compression Flange Bibbs, G.967, Concealed Brass Air Chambers, G.1223, Eclipse Strainer, and 1½" "P" Trap, G. 1339—Under side of Sink painted one coat.

BACK, 12". APRON, 5½".

Sizes of Sinks are Measured over all.

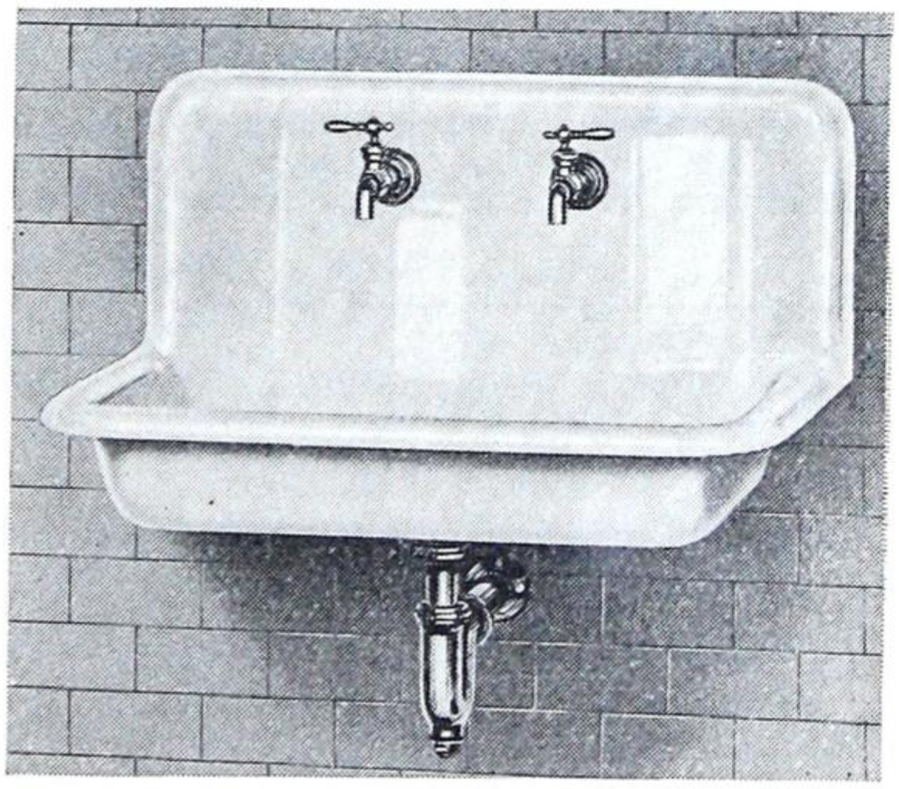
SIZES	18" x 30"	20" x 30"	20" x 36"	20" x 42"	22" x 36"	22" x 42"
Price, as Described	$35.00	$36.00	$39.60	$43.20	$42.80	$46.10
" Less Fittings — except Strainer	25.00	26.00	29.60	33.20	32.80	36.10

SPECIFICATION:

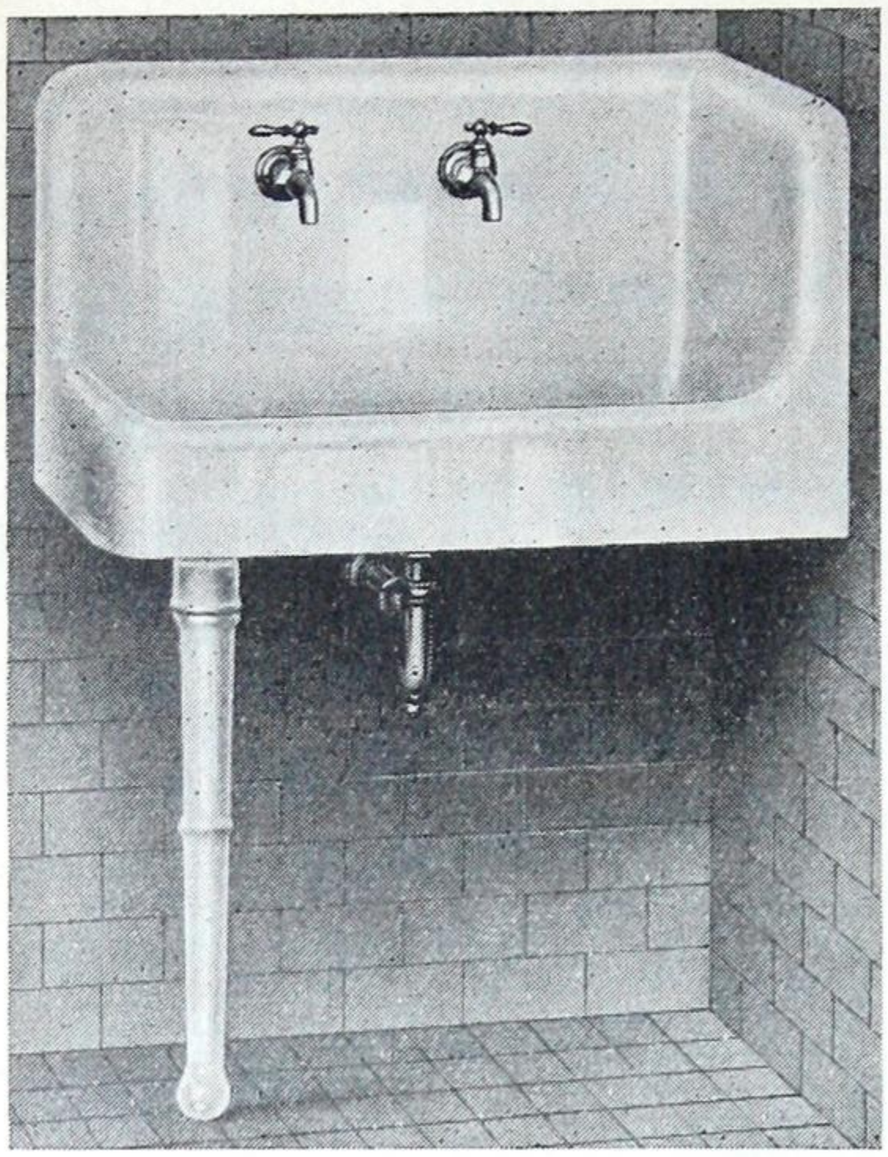
Plate G1895.b—Robertson's "Monarch" Porcelain Enameled Roll-Rim Sink Combination, with Sink and Back in one piece, supported on Concealed Wall Hanger. Fitted with Nickel-Plated Quick Compression Flange Bibbs, G967; Concealed Brass Air Chambers, G1223; Eclipse Strainer and 1½" "P" Trap, G1339. Under side of Sink painted one coat.

BACK, 12".

Sizes of Sinks are measured over all.



SIZES	16" x 24"	18" x 24"	18" 30"	18" x 36"	20" x 30
Price, as Described	$20.80	$21.60	$22.70	$23.50	$25.10
" Less Fittings, except Strainer	10.80	11.60	12.70	13.50	15.10
SIZES	20" x 36"	20" x 40"	22" x 30"	22" x 36"	22" x 42"
Price, as Described	$25.90	$28.90	$25.10	$27.30	$30.30
" Less Fittings, except Strainer	15.90	18.90	15.10	17.30	20.30



SPECIFICATION:

Plate G1896.a—Robertson's "Monarch" Porcelain Enameled Sink Combination, with Sink, Apron, Back, and Right Hand End all in one piece, supported on concealed Wall Hangers and Porcelain Enameled Adjustable Leg. Fitted with Nickel-Plated Quick Compression Flange Bibbs, G967, concealed Brass Air Chambers, G1223, Eclipse Strainer and 1½" "P" Trap, G1339. Under side of Sink painted one coat.

Can also be furnished for Left Hand Corner.

Back, 12" Apron, 5½"

Sizes of Sinks are measured over all.
Prices with Wall Hanger only.

Sizes	16 x 24	18 x 30	20 x 30	20 x 36	20 x 40	22 x 36	22 x 42
Price as described	$38.20	$41.50	$42.50	$46.50	$50.00	$50.00	$53.30
" Less Fittings except Strainer	28.20	31.50	32.80	36.50	40.00	40.00	43.30

RIGHT OR LEFT HAND CORNER SINK WITHOUT APRON—(See G1895.b).

Prices with Wall Hanger only.

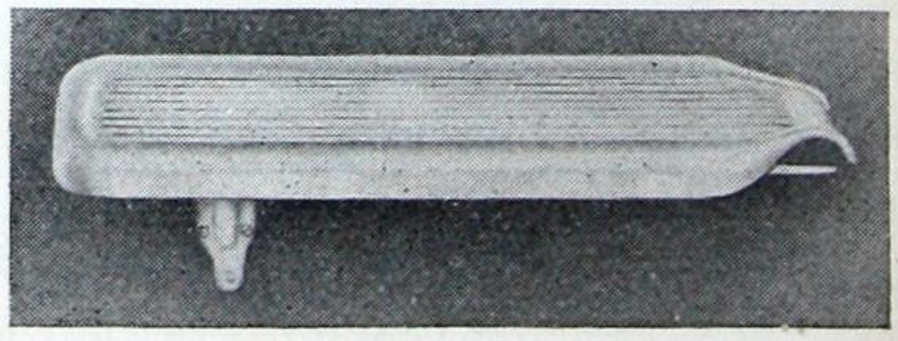
Sizes	16 x 24	18 x 24	18 x 30	18 x 36	20 x 30	20 x 36	20 x 40	22 x 36	22 x 42
Price, as described	$27.40	$28.60	$29.70	$32.10	$31.00	$31.80	$36.40	$35.30	$38.30
" Less Fittings, except Strainer	17.40	18.60	19.70	22.10	21.00	21.80	26.40	25.30	28.30

Note—Prices above do not include Leg. If required with Leg Adjusting Sink 30" to 32" Floor to Top of Rim.

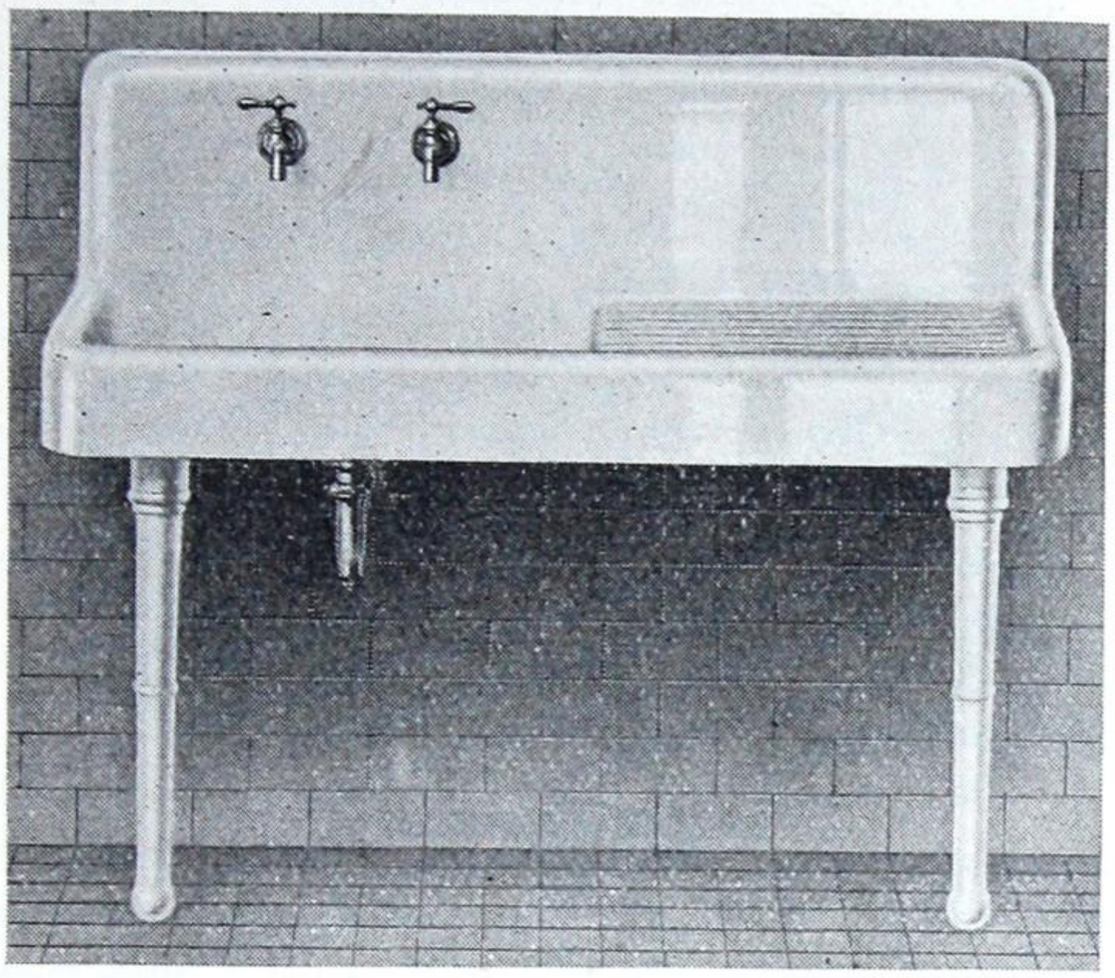
Add for Enameled Leg	Each $3.40
" Painted Leg	" 1.10

SPECIFICATION:

Plate G1896.b—Robertson's "Monarch" Porcelain Enameled Interchangeable Drain Board with Wall Support, for Roll Rim Sinks.



Sizes, Width	16"	18"	20"	22"
Price, 18" long	$5.20	$5.70	$6.30	$6.80
" 24" "	5.70	6.30	6.80	7.20



SPECIFICATION:

Plate G1896.c—Robertson's "Monarch" Porcelain Enameled Sink Combination, with Sink, Apron, Back, and Right Hand Drain Board all in one piece supported on concealed Wall Hangers, and Porcelain Enameled Adjustable Legs. Fitted with Nickel Plated Quick Compression Flange Bibbs, G967, concealed Brass Air-Chambers, G1223, Eclipse Strainer and 1½" "P" Trap, G1339. Under side of Sink painted one coat.

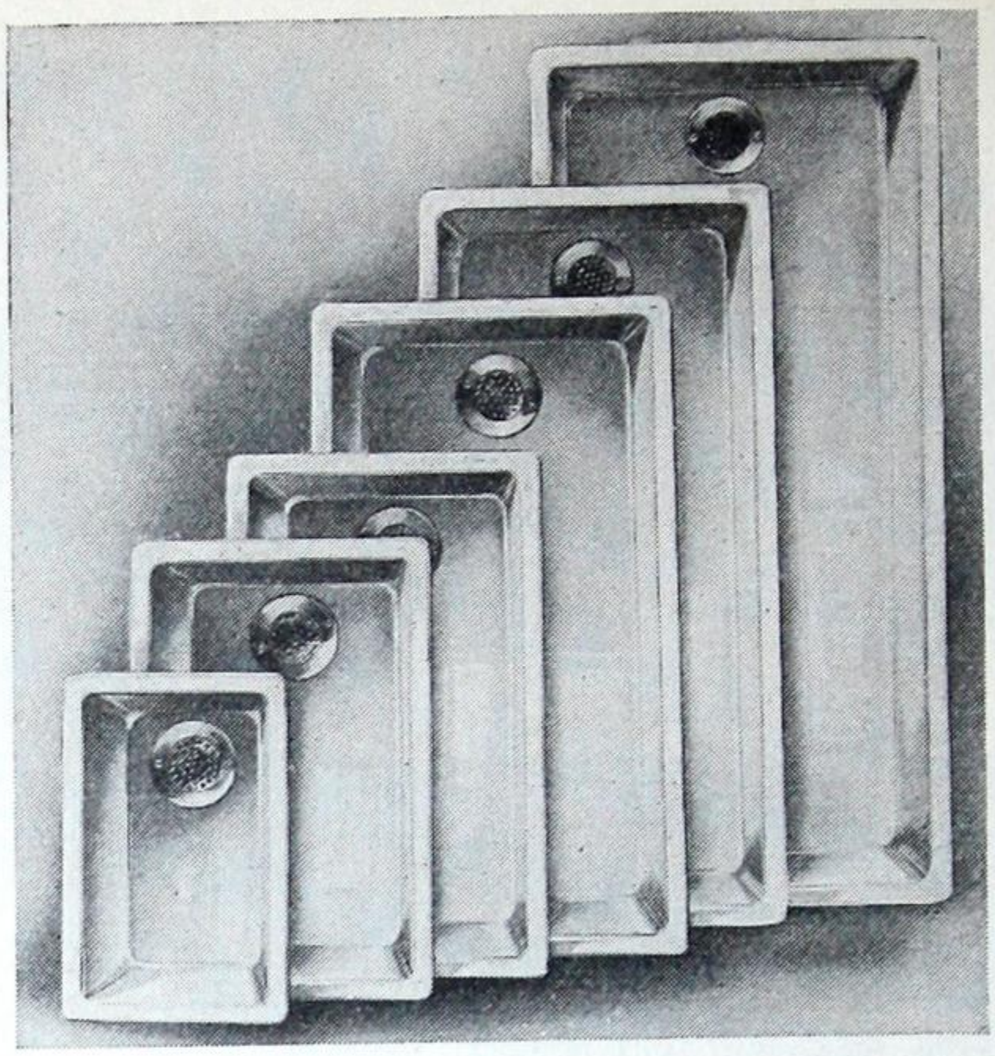
Sink, 20" x 30"	Back, 12"	Length over all, 52½"
Drain Board, 20" x 24"	Apron, 5½"	Width, " 20¼"

Can be supplied with Drain Board on Left Hand. Can also be supplied for Left Hand Corner with Right Hand Drain Board; Right Hand Corner with Left Hand Drain Board; Left Hand Corner with Left Hand Drain Board; Right Hand Corner with Right Hand Drain Board; Recess with Right Hand Drain Board; or Recess with Left Hand Drain Board.

The sizes in every case are the same as above.

	As described.	Less Bibbs Air Chambers and Trap.
Price, with 2 Enameled Legs	$78.30	$68.30
" for Right or Left Hand Corner with 1 Enameled Leg	77.90	67.90
" for Recess with Wall Hangers only	78.40	68.40

If with painted Legs instead of Enameled, deduct each..... $2.30



SPECIFICATION:

Plate G1897.a—Robertson's Monarch Porcelain Enameled Flat Rim Kitchen Sink with Nickel-Plated Flat Strainer. Outside of Sink painted one coat.

Size, Inches	Plain Cast Iron	Enameled	Size, Inches	Plain Cast Iron	Enameled
12 x 12	....	$2.75	20 x 24	....	$4.80
12 x 16	....	2.90	20 x 28	....	5.10
12 x 18	....	3.30	20 x 30	....	6.25
12 x 20	....	3.40	20 x 36	$3.20	7.20
14 x 14	....	3.20	20 x 38	....	7.50
14 x 20	$1.50	4.20	20 x 40	4.70	9.70
14 x 22	....	4.25	20 x 42	....	11.40
14 x 24	....	4.30	20 x 48	....	12.50
16 x 16	....	3.40	20 x 60	....	37.10
16 x 20	....	4.10	20 x 72	....	52.00
16 x 24	1.95	4.40	22 x 36	....	7.50
16 x 28	....	4.80	22 x 42	....	11.75
16 x 30	....	5.00	22 x 48	....	14.60
18 x 22	....	4.20	22 x 62	....	44.50
18 x 24	....	4.60	24 x 48	7.00	14.90
18 x 30	2.20	4.80	24 x 50	....	16.75
18 x 32	....	6.00	24 x 60	16.00	44.50
18 x 36	3.20	6.60	24 x 72	19.00	53.50
20 x 22	....	4.70			

Other Sizes of Plain Cast Iron Sinks—Price on Application.

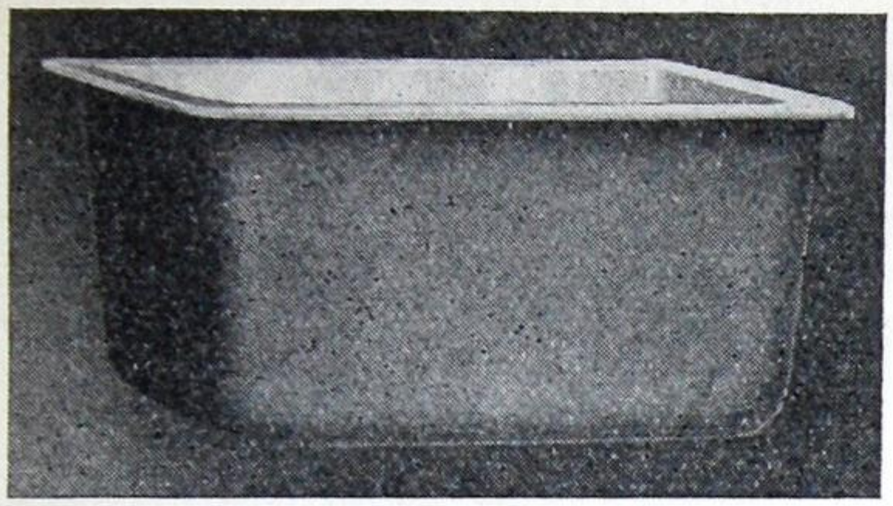
12″ Backs with two Cock holes, for Flat Rim Sinks. (Not Illustrated.)

Sizes, Length Sink, Inches	16	18	20	22	24	28	30	32
Price, each	$2.35	$2.50	$2.80	$3.15	$3.45	$3.75	$4.25	$4.70

Sizes, Length Sink, Inches	36	40	42	48	50	60	62	72
Price, each	$5.30	$5.95	$6.25	$7.80	$8.15	$9.70	$10.00	$11.75

12″ End Pieces for Flat Rim Sinks. (Not Illustrated.)

Sizes, Width Sink, Inches	16	18	20	22
Price, each	$2.05	$2.35	$2.65	$2.90



SPECIFICATION:

Plate G1897.b—Robertson's "Monarch" Porcelain Enameled Flat Rim Slop Sink with 2" Centre Outlet and Nickel-Plated Eclipse Strainer.

Sizes, Inches	16x16x10	16x16x12	20x14x12	20x16x12	22x20x12	23x15x15	24x18x12	24x20x12
Price, as described	$6.50	$7.00	$7.50	$8.75	$10.00	$9.60	$9.60	$10.50

Sizes, Inches	30x18x12	30x20x12	36x20x12	36x21x16	48x20x12	48x20x17	72x20x12
Price, as described	$17.10	$18.20	$22.10	$30.80	$32.90	$41.60	$57.60

If with Overflow, add $4.20; if with Overflow and Plug Strainer, add $4.70.

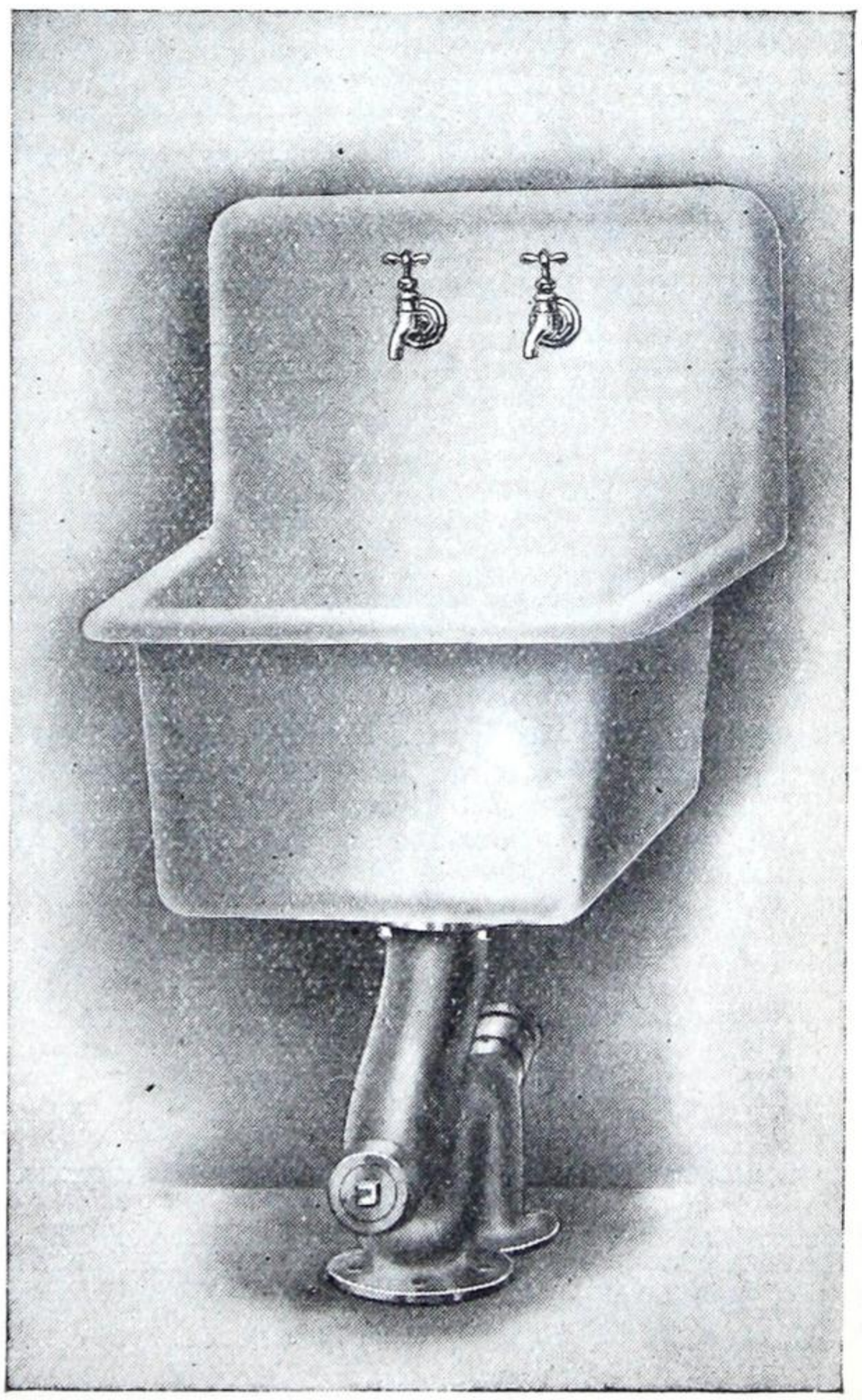
Painted Slop Sinks.....Prices on application.

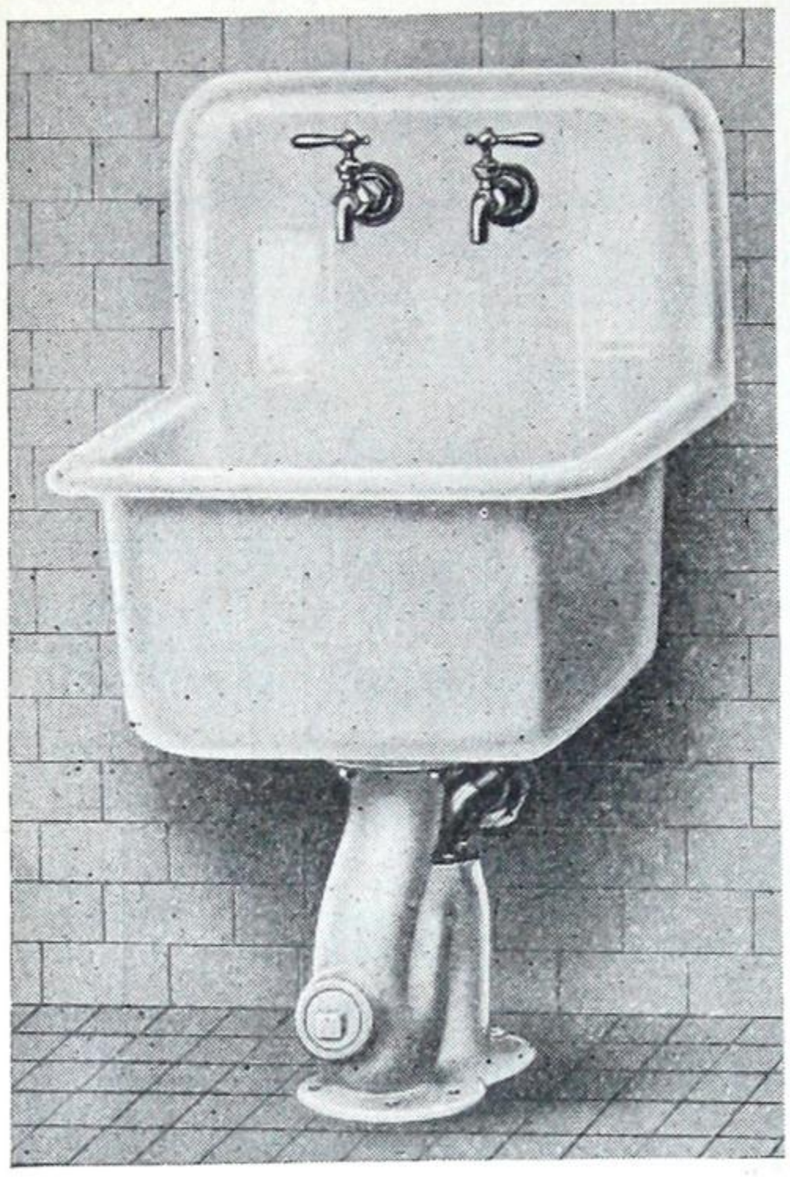
SPECIFICATION:

Plate G1897.c—Robertson's "Monarch" Porcelain Enameled Iron, Roll Rim, Integral Back Slop Sink on Enameled Inside Trap Standard with Clean-Out Screw, ½-inch Nickel-Plated "Kingdon" Sliding Box Faucets and Nickel-Plated Outlet Strainer.

	Inches.	Enameled Iron.	Enameled all Over.
List Price, as described.....	16 x 20	$29.70	$36.70
" " "	18 x 22	32.75	39.80
" " "	20 x 22	34.30	42.30
" " "	20 x 24	36.00	44.00

If without Bibbs.....Deduct $6.50



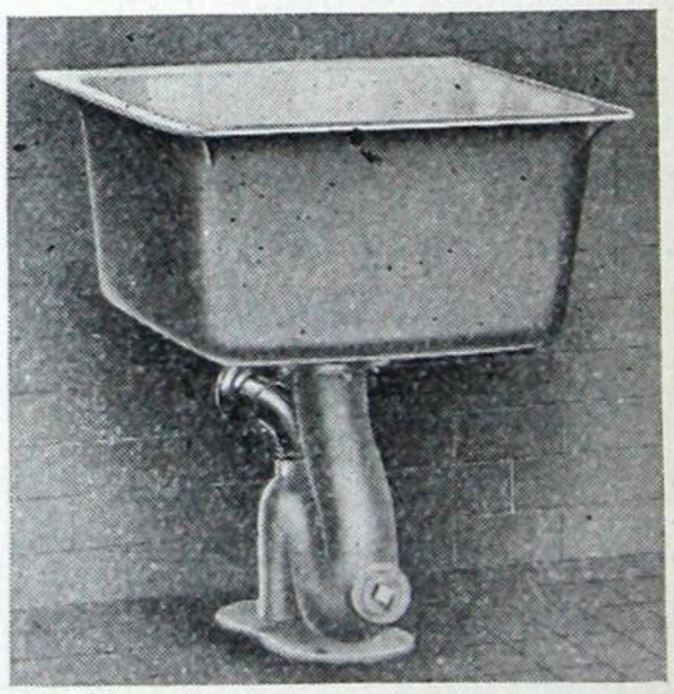


SPECIFICATION:

Plate G1897.d—Robertson's "Monarch" Porcelain Enameled Roll Rim Slop Sink, with Sink and 12″ Back in one piece, supported on Full "S" Pattern Trap. Fitted with Nickel-Plated Quick Opening Compression Flange Bibbs, G967, concealed Brass Air Chambers, G1223, and "Eclipse" Strainer. Outside of Sink and Trap painted one coat.

Sizes	16″ x 20″	18″ x 22″	20″ x 22″	20″ x 24″
Price, as described, Enameled inside	$29.15	$32.25	$33.80	$35.50
Price, as described, Enameled all over	36.15	39.25	41.80	43.50

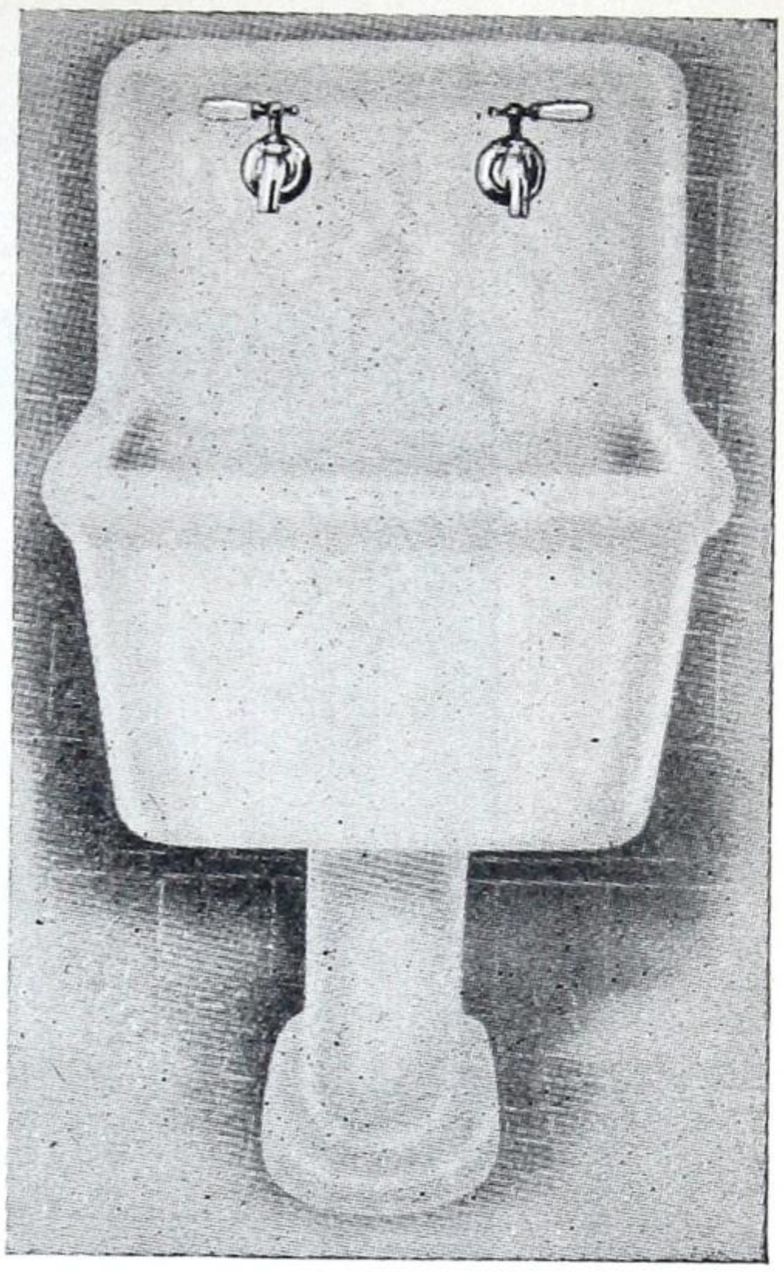
If without Bibbs and Air Chambers, deduct $6.00



SPECIFICATION:

Plate G1897.e—Robertson's "Monarch" Porcelain Enameled Flat Rim Slop Sink, supported on Full "S" Pattern Trap. Fitted with Nickel-Plated Eclipse Strainer. Outside of Sink and Trap painted one coat.

Sizes	16″ x 16″	16″ x 20″	18″ x 22″	20″ x 22″	20″ x 24″
Price, as described	$14.40	$15.95	$18.35	$19.15	$20.30
With Back 15″ High for 2 Cock Holes	18.15	20.15	22.80	23.50	25.15



SPECIFICATION:

Plate G1897.f—Robertson's Imperial White Porcelain Roll Rim Slop Sink with Integral High Back and Vitreous Trap Standard with Nickel-Plated Brass Slop Sink Strainer and Nickel-Plated Quick Opening Compression Flange Bibbs with China Handles.

Height of Back, 12". Depth Inside of Sink, 12".

Sizes, Inches	20 x 18	22 x 20	24 x 22
Price, as described	$49.50	$55.50	$62.00
If without Bibbs, deduct			$3.00
If on Plain Cast Iron Trap Standard, deduct			$12.50

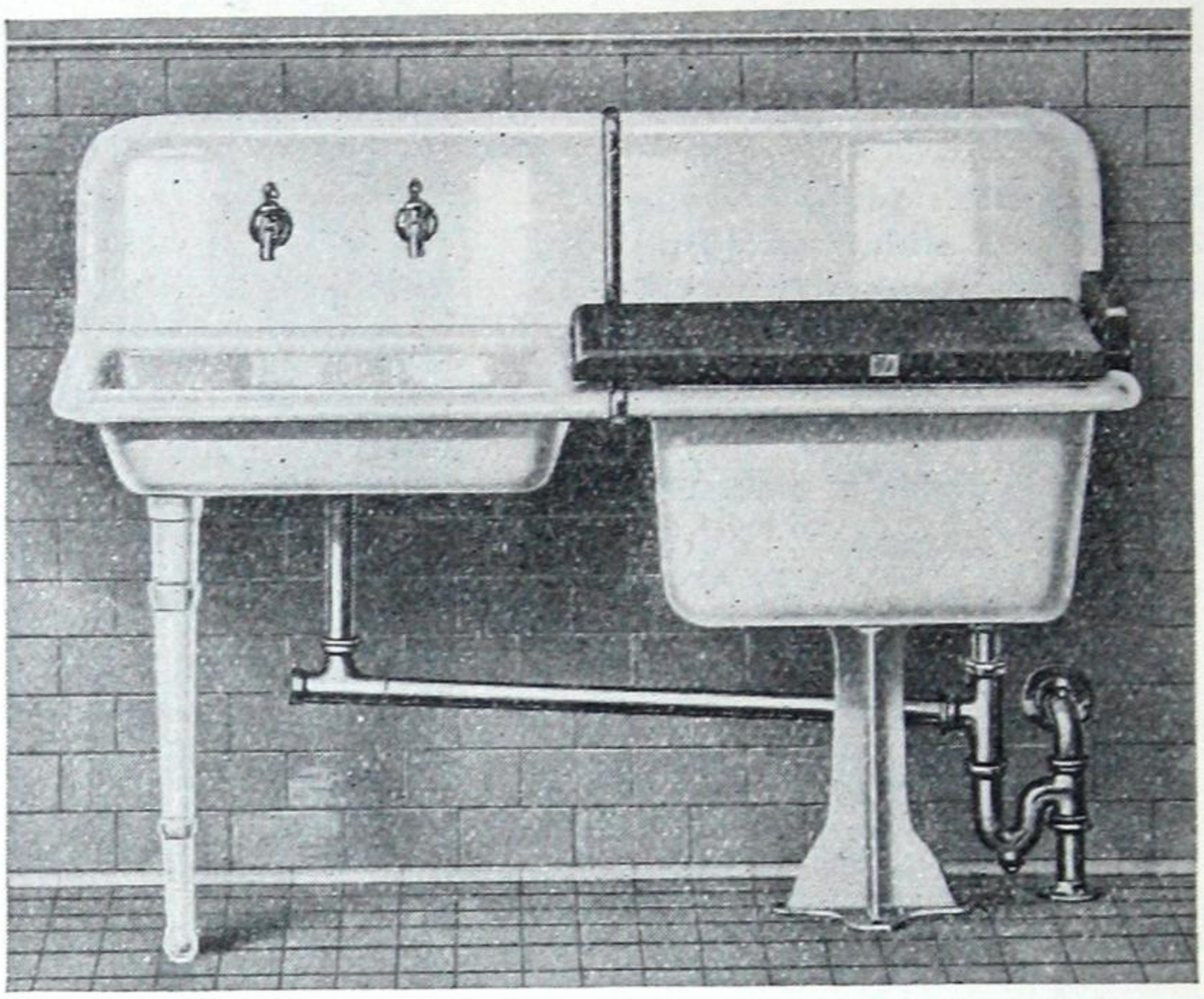


SPECIFICATION:

Plate G1897.g—Robertson's Imperial White Porcelain All-Roll Rim Slop Sink and Vitreous Trap Standard with Nickel-Plated Brass Slop Sink Strainer.

Depth Inside of Sink, 12".

Sizes, Inches	20 x 16	22 x 18	24 x 20
Price, as described	$34.00	$38.00	$42.00
If on Plain Cast Iron Trap Standard, deduct			$12.50



SPECIFICATION:

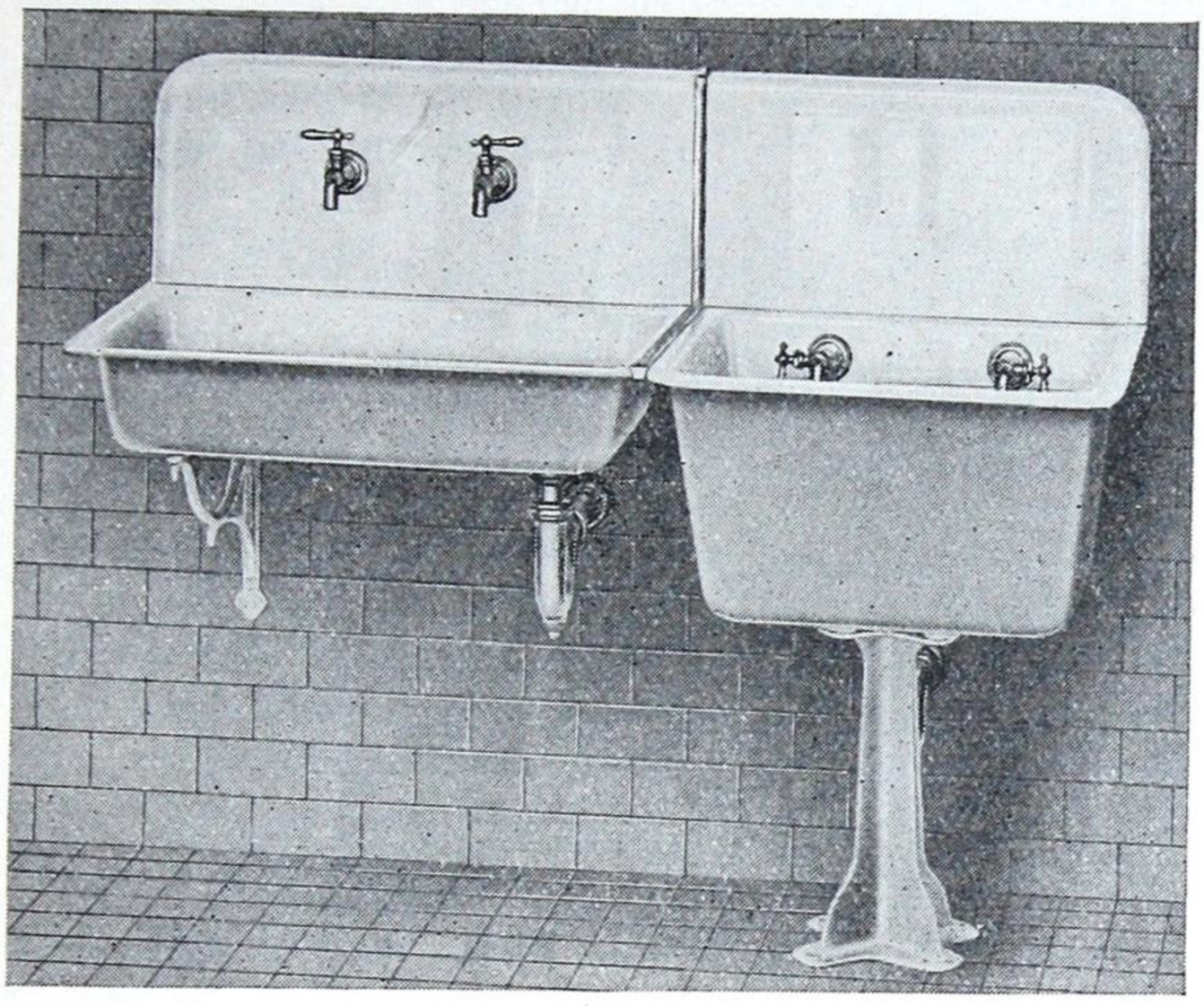
Plate G1898.a—Robertson's "Monarch" Porcelain Enameled Roll-Rim Sink and Laundry Tray Combination with separate 12" Porcelain Enameled Back and Nickel-Plated Union Strip, Supported on Painted Pedestal and Painted Adjustable Sink Leg. Sink Fitted with Nickel-Plated Adjustable Flange Compression Bibbs, G989, concealed Brass Air Chamber, G1223, and Eclipse Strainer with Coupling. Laundry Tray fitted with Nickel-Plated Stub Pattern Compression Wash Tray Bibbs, G993b, Nickel-Plated Soap Dish, Wringer Holder, Waste Plug with Rubber Stopper and Combination Ash Drain Board and Tray Cover. Combination fitted with Nickel-Plated Continuous Waste and 1½" vented "S" Trap, G1338, and Painted one coat outside.

Sink is shown on Left-Hand Side of Tray, but can be furnished on Right-Hand Side if desired.

Sink, Inside,	21¼" x 26"	Tray, Inside,	21" x 23"
" Outside,	26¼" x 30¼"	" Outside,	26¼" x 27¾"
" Depth,	6"	" Depth,	14½"

Length over all, 58". Back, 12". Floor to Top of Rim, 31¼"

Price, as described	$93.75
" Less Bibbs, Air Chambers, Continuous Waste and Trap	73.75
If without Cover, deduct	10.80
If without Wringer Holder, deduct	3.75



SPECIFICATION:

Plate G1898.b—Robertson's "Monarch" Porcelain Enameled Flat-Rim Sink and Laundry Tray Combination, with separate 12" Porcelain Enameled Back and Nickel-Plated Union Strip. Supported on Painted Pedestal and Painted Sink Wall Bracket. Sink fitted with Nickel-Plated Quick Opening Compression Flange Bibbs, G967, Eclipse Strainer with Coupling and 1½" "P" Trap, G1339. Laundry Tray fitted with Stub Pattern Quick Opening Compression Flange Wash Tray Bibb, G969, Waste Plug with Rubber Stopper, and 1½" "P" Trap, G1339. Outside of Combination painted one coat.

Sink is shown on Left Hand Side of Tray, but can be furnished on Right Hand Side if desired.

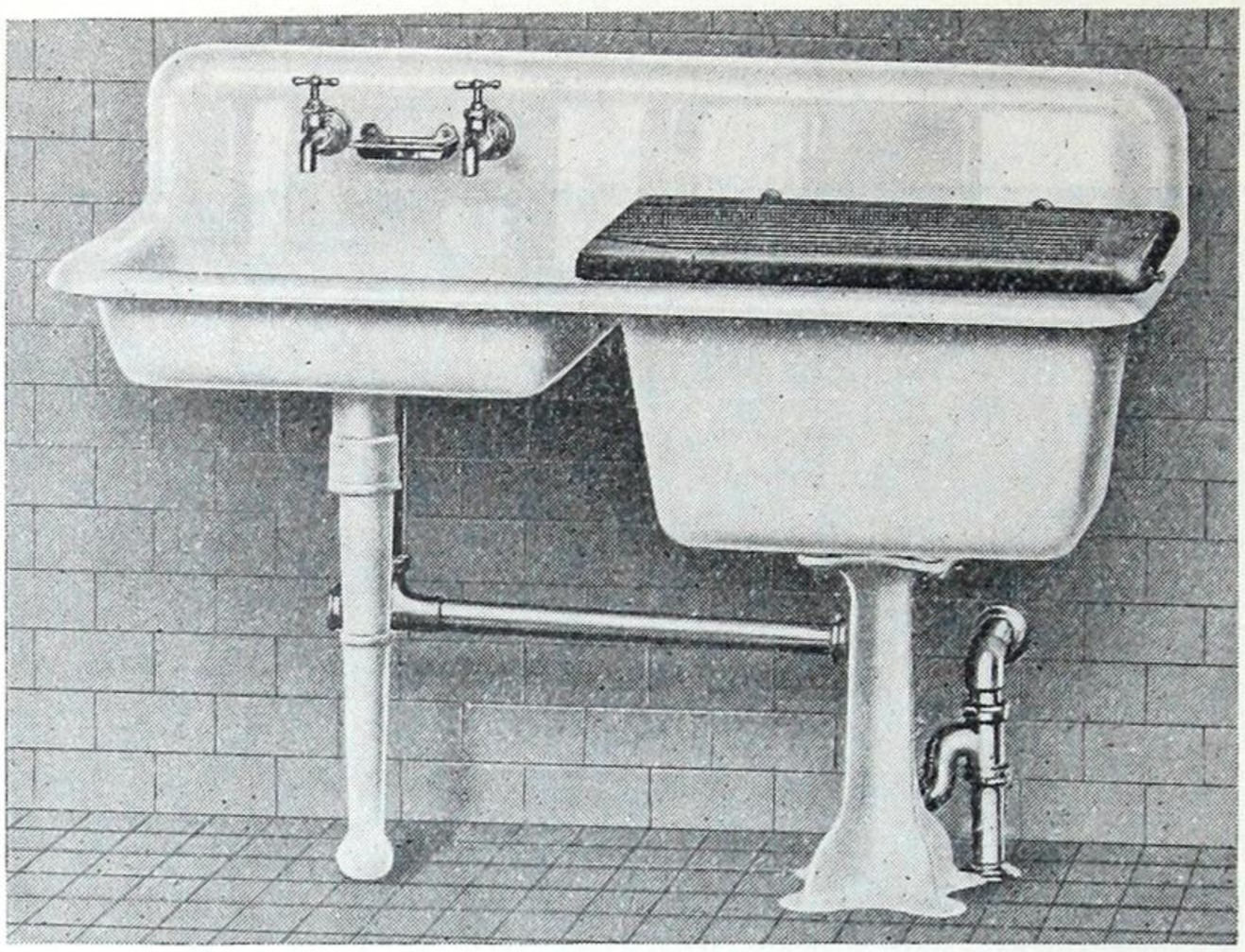
Sink, Outside	20" x 24"	20" x 30"	20" x 36"
" Inside	17¾" x 21¾"	17¾" x 27¾"	17¾" x 33¾"

Depth Inside, 6"

Tray, Outside, 22" x 24"
" Inside, 19" x 21¼"
Depth Inside, 13¼"

Length, Over all, 48⅛", 54⅛", 60⅛"
Back 12"
Floor to Top of Rim, 30¼"

	As Described.	Less Bibbs and Traps.
Price, One Tray and 20" x 24" Sink	$49.50	$35.00
" " " 20" x 30" "	51.00	36.50
" " " 20" x 36" "	52.50	38.00



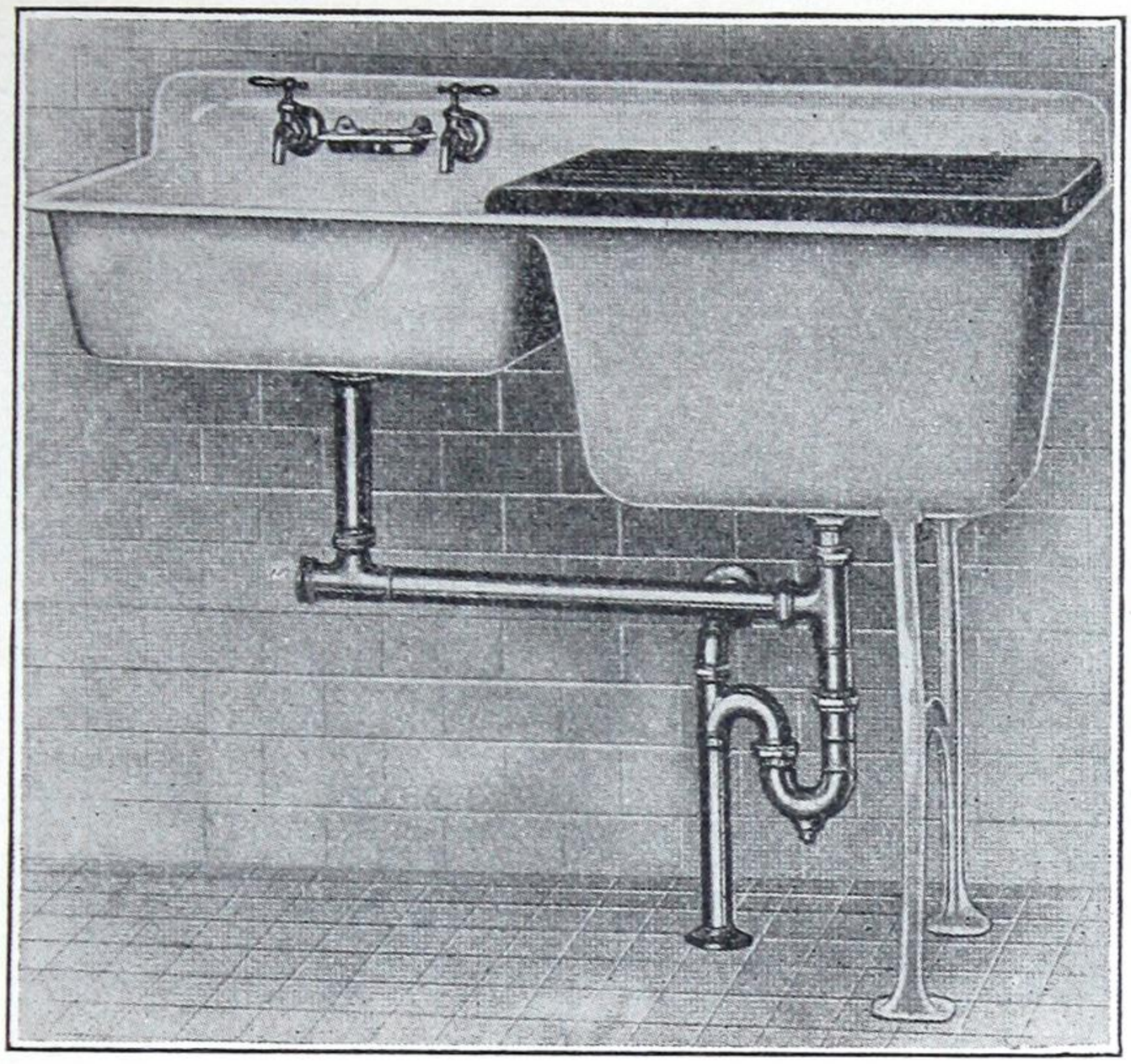
SPECIFICATION:

Plate G1898.c—Robertson's Monarch Porcelain Enameled Roll-Rim One Piece Sink and Laundry Tray Combination; Supported on Painted Pedestal and Painted Adjustable Sink Leg. Sink fitted with Nickel-Plated Compression Adjustable Flange Bibbs, Concealed Brass Air Chambers, 4⅝-inch Flat Strainer with Coupling and Nickel-Plated Soap Dish. Laundry Tray fitted with Nickel-Plated Compression Stub Pattern Wash Tray Bibbs, Waste Tray Plug with Rubber Stopper and Combination Ash Drain Board and Tray Cover. Combination fitted with Nickel-Plated Continuous Waste and 1½-inch Vented "S" Trap. Outside of Tray and Sink painted one coat.

Sink is shown on Left Hand Side of Tray, but can be furnished on Right Hand Side if desired.

Sink, Outside.....23½" x 25"	Inside.....19¼" x 21¾"	Depth..... 6"
Tray, Outside.....23½" x 25"	Inside.....19¼" x 21¾"	Depth.....13¼"
Length, over all.....50"	Back..... 8"	Floor to Top of Rim....30"

Price, as described.....	$87.50
Price, Less Bibbs, Air Chambers, Wastes and Trap.....	67.50
If without Drain Board and Tray Cover.....deduct	10.80
If with Wringer Holder.....add	3.75



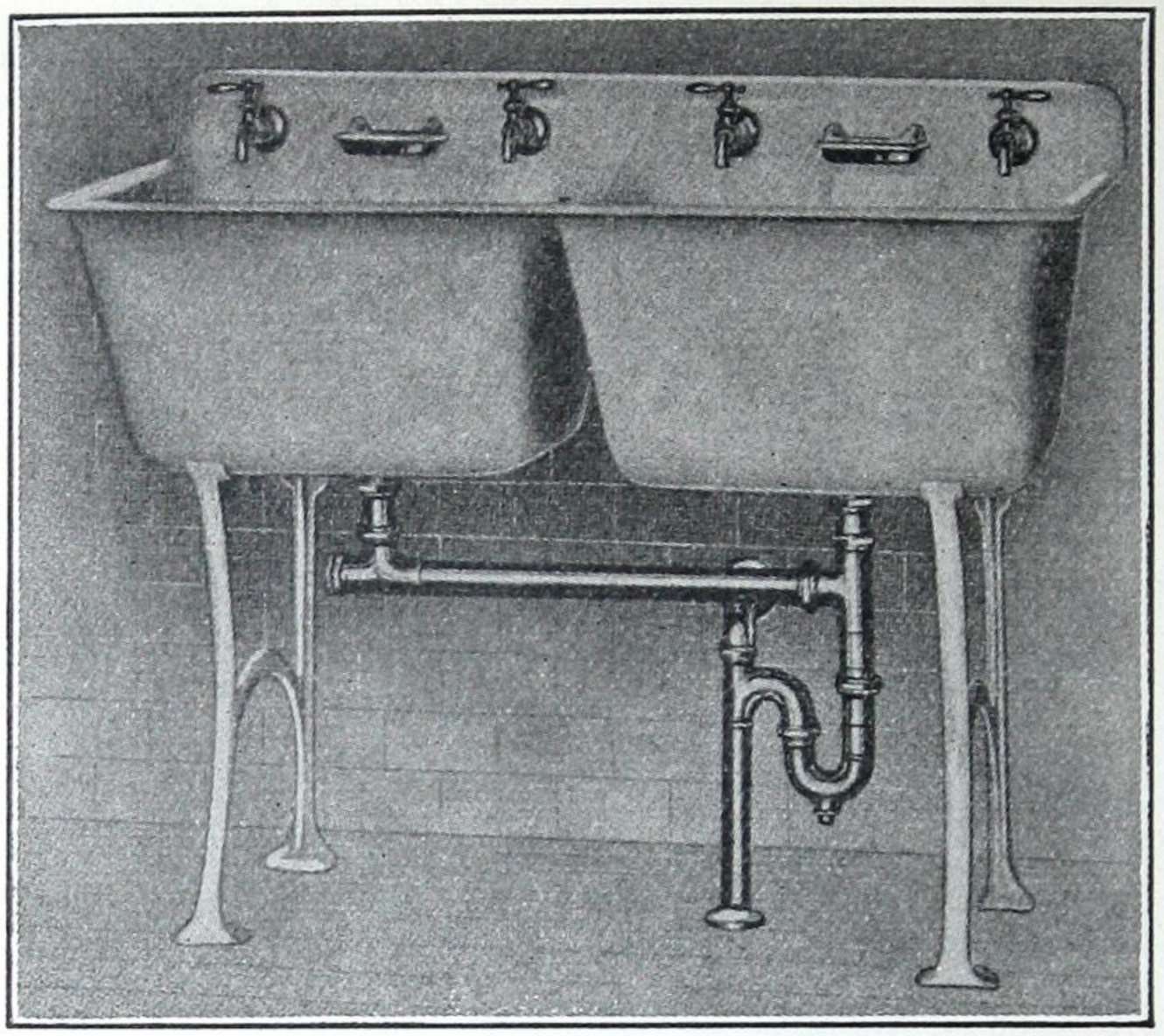
SPECIFICATION:

Plate G1898.x.—Robertson's "Monarch" Porcelain Enameled One-Piece Sink and Laundry Tray Combination. Supported on painted Bracket Leg and Concealed Wall Hanger. Sink fitted with Nickel-Plated Compression Flanged Bibbs, Nickel-Plated Flat Strainer with coupling and Nickel-Plated Soap Dish. Laundry Tray fitted Nickel-Plated Compression Stub Pattern Wash Tray Bibbs (under Drain Board not seen in illustration). Waste Tray Plug with Rubber Stopper and Combination Drain Board and Tray Cover. Combination fitted with Nickel-Plated Continuous Waste and 1½ Nickel-Plated Vented "S" Trap. Outside of sink and tray painted one coat. Sink shown on left hand side of Tray, but can be furnished on right hand side if desired.

Note.—When ordered without Drain Board, Tray can be supplied with holes in back on line with holes in back of sink if so desired.

Sink outside.....22″ x 23″	Inside.....18½″ x 20¾″	Depth.....8″.
Tray, outside.....22″ x 23″	Inside.....18½″ x 20¾″	Depth.....13″.
Length over all.....46″	Back.....4″	Floor to top Rim.....33″.

Price as described	$ 75.00
Price, less Bibbs, Waste and Trap	55.00
If without Drain Board and Tray Cover, deduct	10.80
If with Wringer Holder, add	3.75

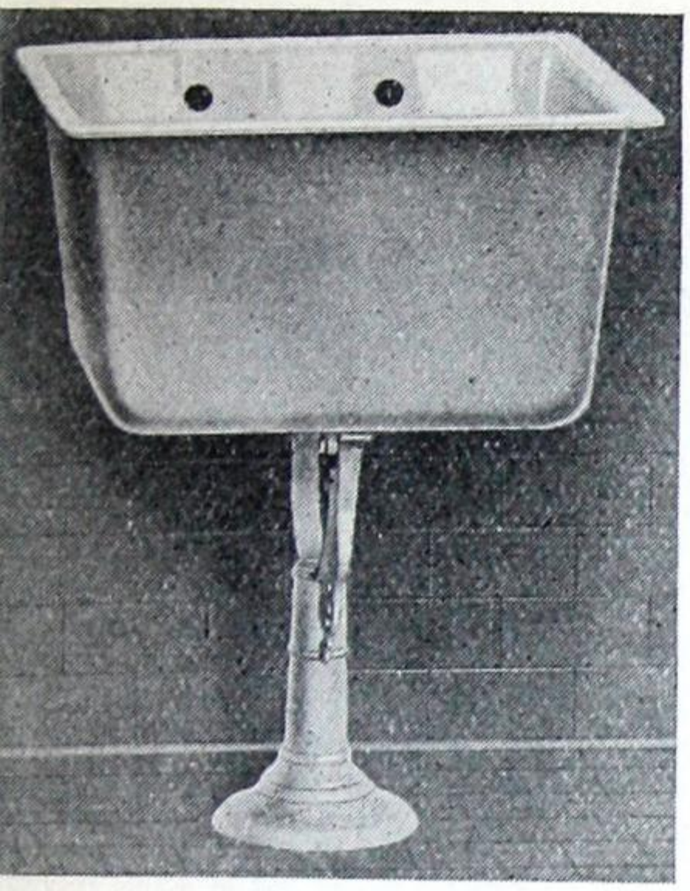


SPECIFICATION:

Plate G1899.x.—Robertson's "Monarch" Porcelain Enameled Two-Section Flat Rim Laundry Tray and Back, all in one piece, on painted Bracket Legs. Fitted with Nickel-Plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Compression Flanged Bibbs, and 1½ Nickel-Plated Continuous Waste with 1½ Nickel-Plated Vented "S" Trap—G.1338. Outside of Tray painted one coat.

Front to Back, outside.....21½"	Length over all Two Sections.....46"
Front to Back, inside.....19"	Depth inside .....13"
Height of Back.....4"	Floor to Top of Rim.....33½"

Price as described	$65.00
" " Less Bibbs, Continuous Waste and Trap	45.00



SPECIFICATION:

Plate G1899.a—Robertson's "Monarch" Porcelain Enameled Flat Rim Laundry Tray on Painted Pedestal. Outside painted one coat.

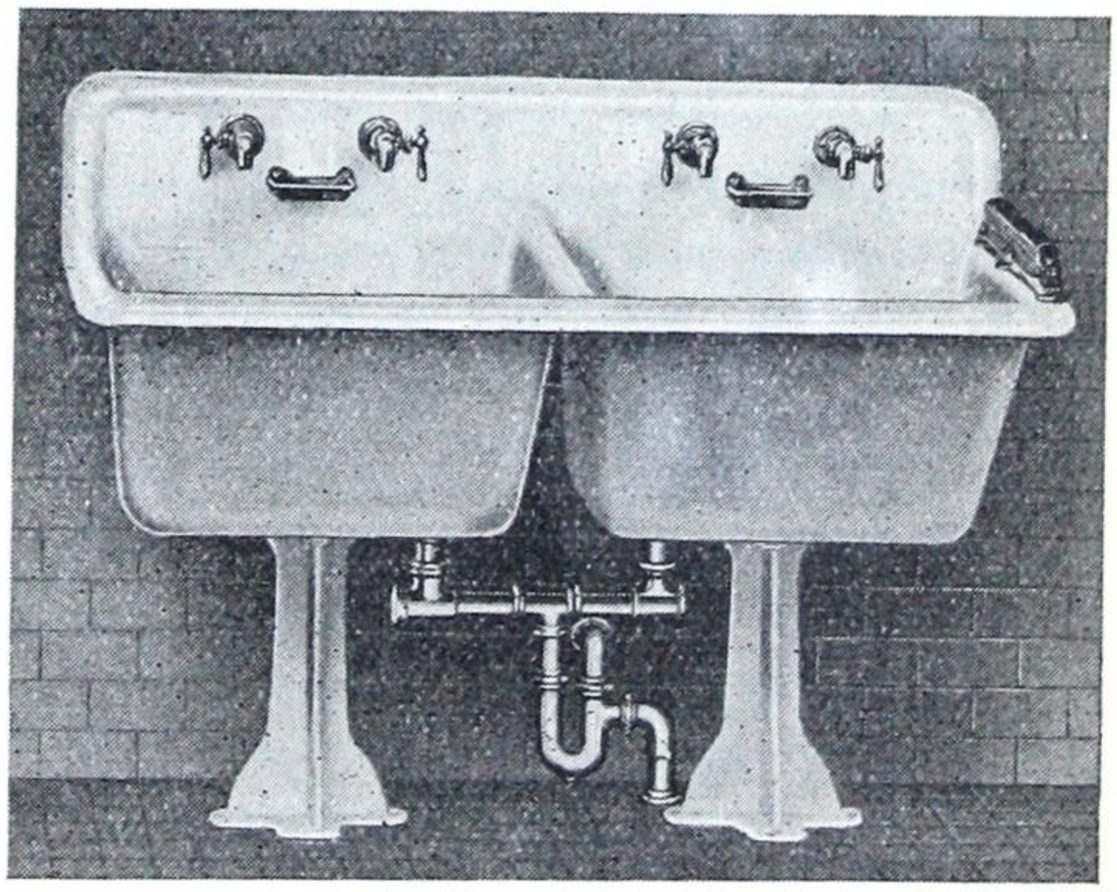
Front to Back, Outside,	20″	Length, Outside,	24″
" " Inside,	17¼″	" Inside,	21½″
Depth, Inside,	13¼″	Floor to Top of Rim,	31″

Price, as described	$12.60
" on Wall Hangers	11.40

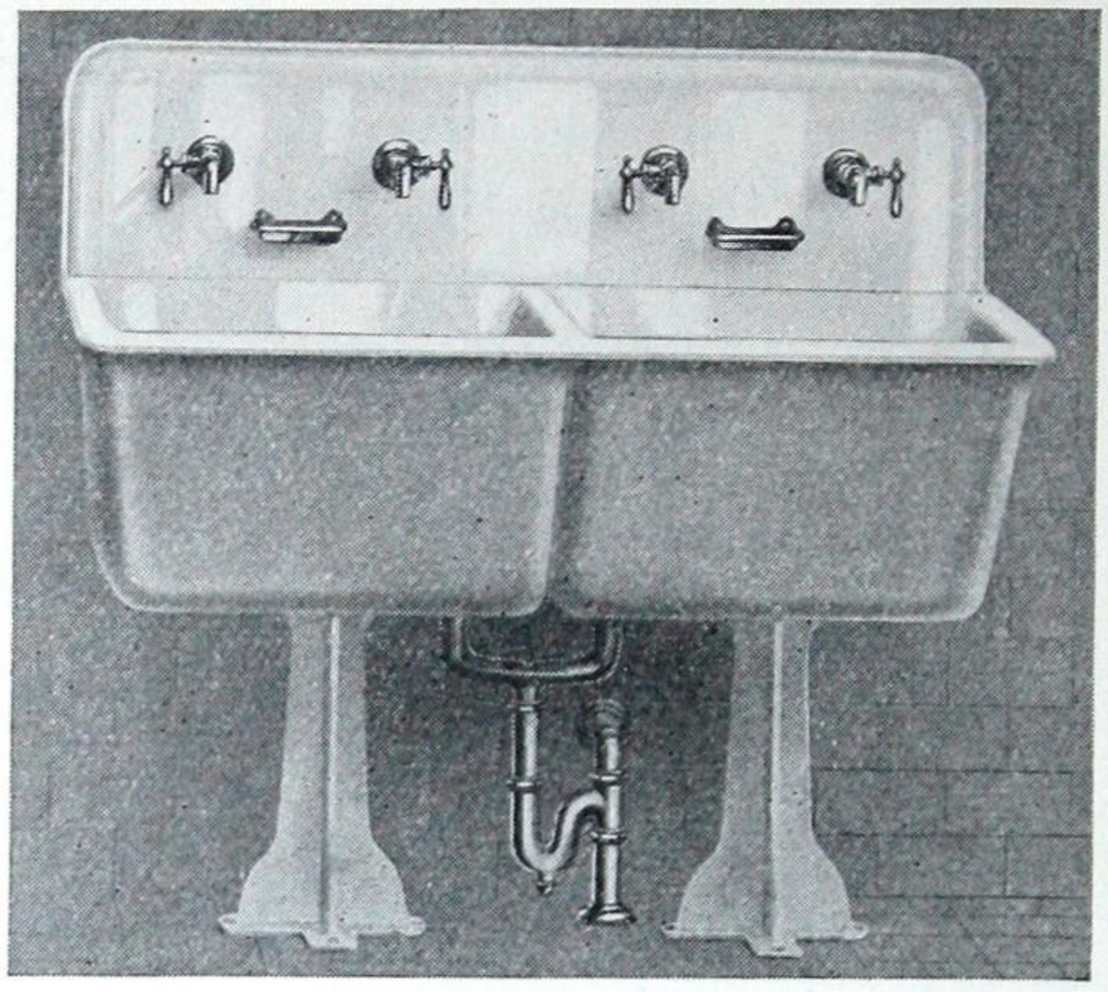
SPECIFICATION:

Plate G1899.b—Robertson's "Monarch" Porcelain Enameled Roll Rim Two-Section Laundry Tray and Back, all in one piece, on Painted Pedestals, Fitted with Hardwood Wringer Holder on Right Hand End, Nickel-plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Fuller Solid Flange Wash Tray Bibb, G1068, and 1½″ Nickel-Plated Continuous Waste with 1½″ Vented "S" Trap, G1338. Outside of Tray painted one coat.

Front to Back, Outside, 25½″
" " Inside, 21¾″
Depth inside, 14¼″
Height of Back, 8″
Length, Over all, Two Sections, 53″
" Inside each Section, 23″
Floor to Top of Rim, 31¼″



Price, as described	$79.00
" " Less Bibbs, Continuous Waste and Trap	61.10
If without Wringer Holder, deduct	3.57



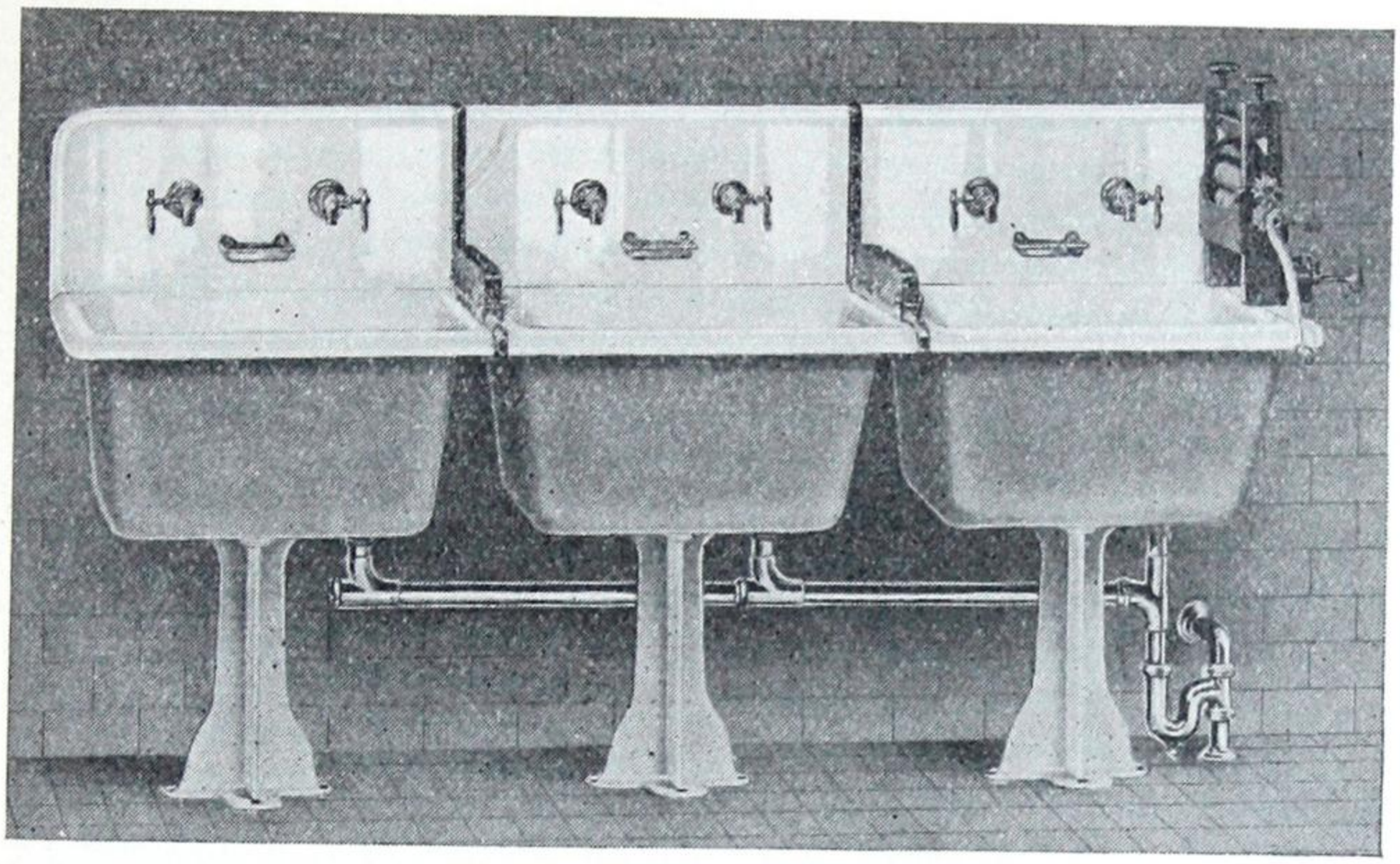
SPECIFICATION:

Plate G1899.c—Robertson's "Monarch" Porcelain Enameled Flat-Rim Two-Section Laundry Tray in one piece, with separate Porcelain Enameled One-piece Back, on Painted Pedestals. Fitted with Nickel-Plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Fuller Solid Flange Wash Tray Bibb, G1068, and 1½" Nickel-Plated Continuous Waste with 1½" Vented "S" Trap, G1338. Outside of Tray painted one coat.

Front to Back.	Outside	25¼"	Length,	Over all, Two Sections	49"
" "	Inside	22"	"	Inside, each Section	23"
Height of Back		12"	Depth,	Inside	14¼"

Floor to Top of Rim, 31¼"

Price, as described	$57.00
" Less Bibbs, Continuous Waste and Trap	39.40
If without Back, deduct	5.65



SPECIFICATION:

Plate G1899.d—Robertson's "Monarch" Porcelain Enameled Roll-Rim Laundry Tray with Separate Porcelain Enameled Sectional Back, on Painted Pedestals. Fitted with Nickel-Plated Union Strips and Hard Wood Wringer Holders, Nickel-Plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Fuller Solid Flange Wash Tray Bibbs, G1068, and 1½" Nickel-Plated Continuous Waste with 1½" Vented "S" Trap, G1338. Outside of Tray painted one coat.

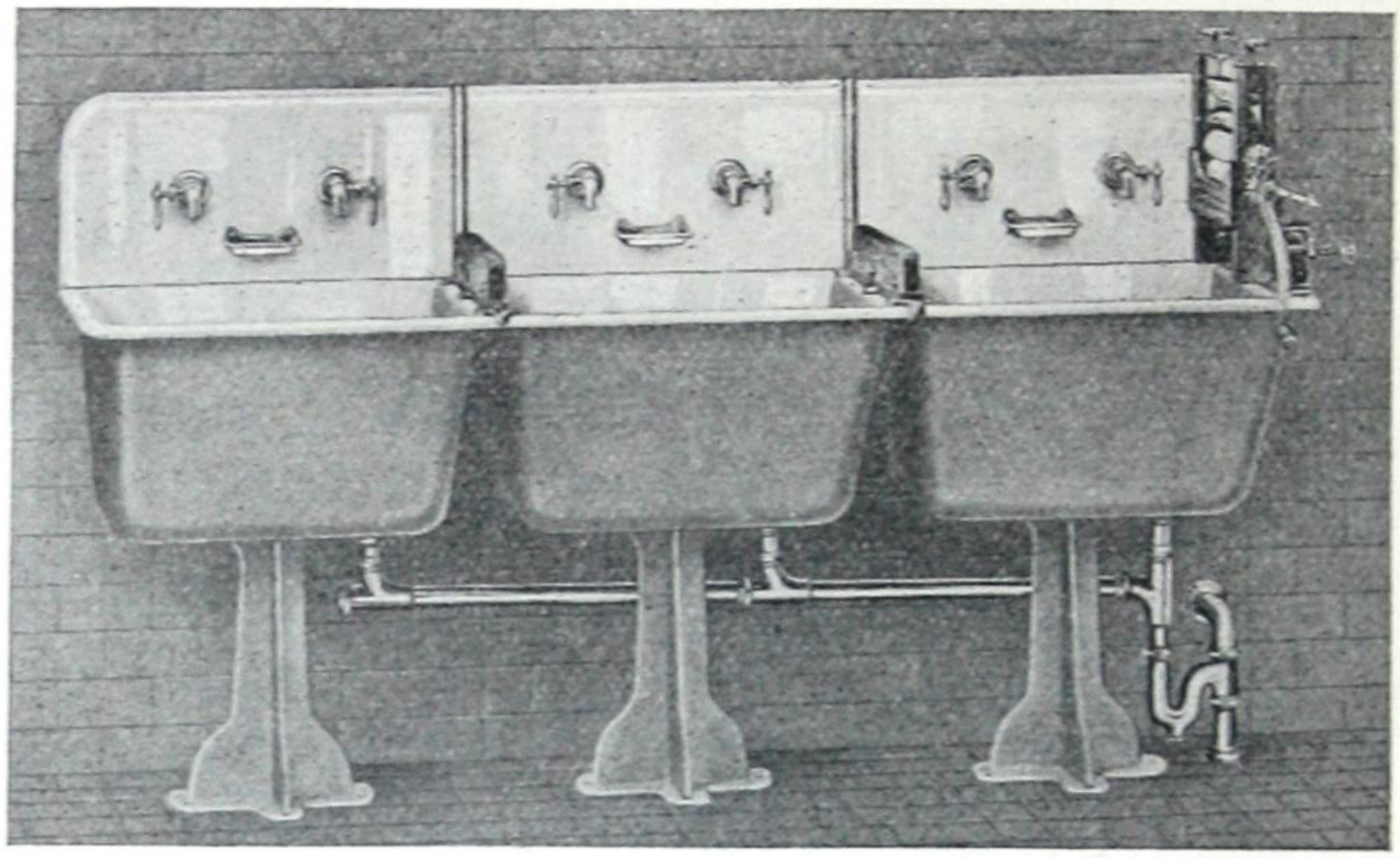
Front to Back.	Outside	26"	Length, Over all. Three Sections		83"
" "	Inside	21¾"	" Inside. Each Section		23"
Height of Back		12"	Depth, Inside		14¼"

Floor to Top of Rim, 31¼"

NUMBER OF SECTIONS	1	2	3
Price, as described	$46.00	$83.00	$124.00
" Less Bibbs, Continuous Waste and Trap	36.00	65.00	101.00

If without Wringer Holders, deduct.....Each $3.75

Note.—Can also be supplied with Tray and Back of each section all in one piece at same prices as above.



SPECIFICATION:

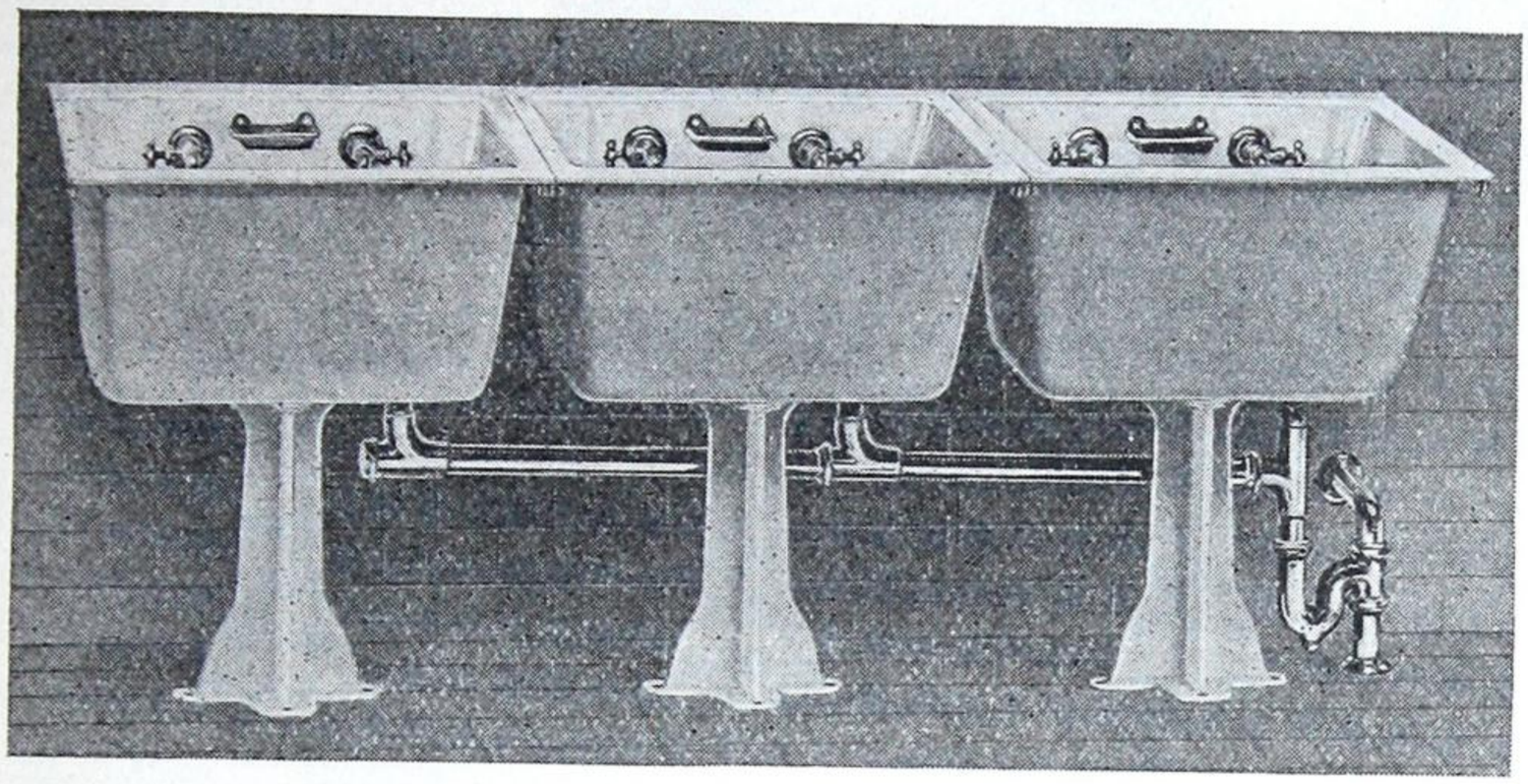
Plate G1899.e—Robertson's Monarch Porcelain Enameled Flat Rim Laundry Tray, with separate Porcelain Enameled Sectional Back, on Painted Pedestals. Fitted with Nickel-Plated Union Strips and Hard Wood Wringer Holders, Nickel-Plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Fuller Solid Flange Wash Tray Bibbs, G1068, and 1½″ Nickel-Plated Continuous Waste with 1½″ Vented "S" Trap, G1338. Outside of Tray painted one coat.

Front to Back.	Outside	25″	Length,	Over all, Three Sections	78″
" "	Inside	21¾″	"	Inside, each Section	23″

Height of Back, 12″; Floor to Top of Rim, 31¼″; Depth, Inside, 14¼″.

NUMBER OF SECTIONS	1	2	3
Price, as described	$34.50	$69.00	$101.50
" Less Bibbs, Continuous Waste and Trap	24.50	51.50	78.75
" as Described, less Backs	29.75	60.00	87.50
" Less Backs, Bibbs, Continuous Waste and Trap	19.80	42.20	64.75

If without Wringer Holders ..... Deduct each $3.75



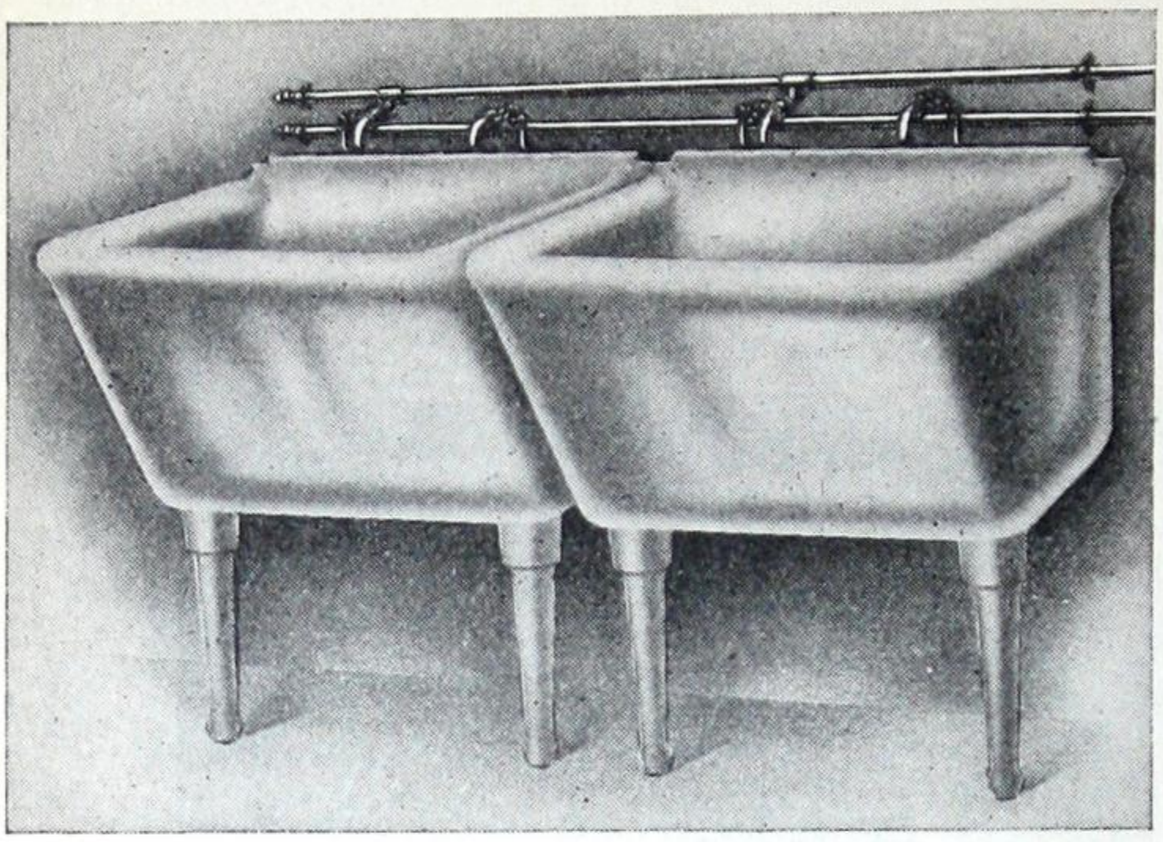
SPECIFICATION:

Plate G1899.f—Robertson's Monarch Porcelain Enameled Flat Rim Laundry Tray on Painted Pedestals. Fitted with Nickel-Plated Soap Dishes, Waste Plugs and Rubber Stoppers, Nickel-Plated Fuller Solid Flange Wash Tray Bibbs, G1068, and 1½" Nickel-Plated Continuous Waste with 1½" Vented "S" Trap, G1338. Outside of Tray painted one coat.

Front to Back.	Outside.....	25½"	Length, Over all.	Three Sections.....	77"
" "	Inside.....	22 "	"	Inside. Each Section.....	23"
Depth, Inside.....		14¼"	Floor to Top of Rim.....		31¼"

NUMBER OF SECTIONS.....	1	2	3
Price, as described.....	$26.00	$49.60	$70.45
" Less Bibbs, Continuous Waste and Trap.....	16.00	31.90	47.75

f with Wringer Holders .....Add, Each $3.75



SPECIFICATION:

Plate G1900.a—Robertson's Imperial White Porcelain Laundry Tray, Glazed inside and outside, with Porcelain Legs and Iron Wall Braces.

Depth, Inside, 14½″

SIZE, OUTSIDE	24″ x 24″	26″ x 24″	29″ x 24″
Price, as described Imperial White Porcelain....Each	$29.25	$30.25	$31.25
Price, as described, Colonial Porcelain....Each	28.40	29.25	30.00

All Roll-Rim Imperial White Porcelain Laundry Tubs same Price as above.

Backs to Suit ¾″ Roll-Rim Tub.

SIZE	24″ x 15″	26″ x 15″	29″ x 15″
Price, Imperial White Porcelain....Each	$5.75	$6.25	$6.75
" Colonial Porcelain.... "	5.50	6.00	6.50

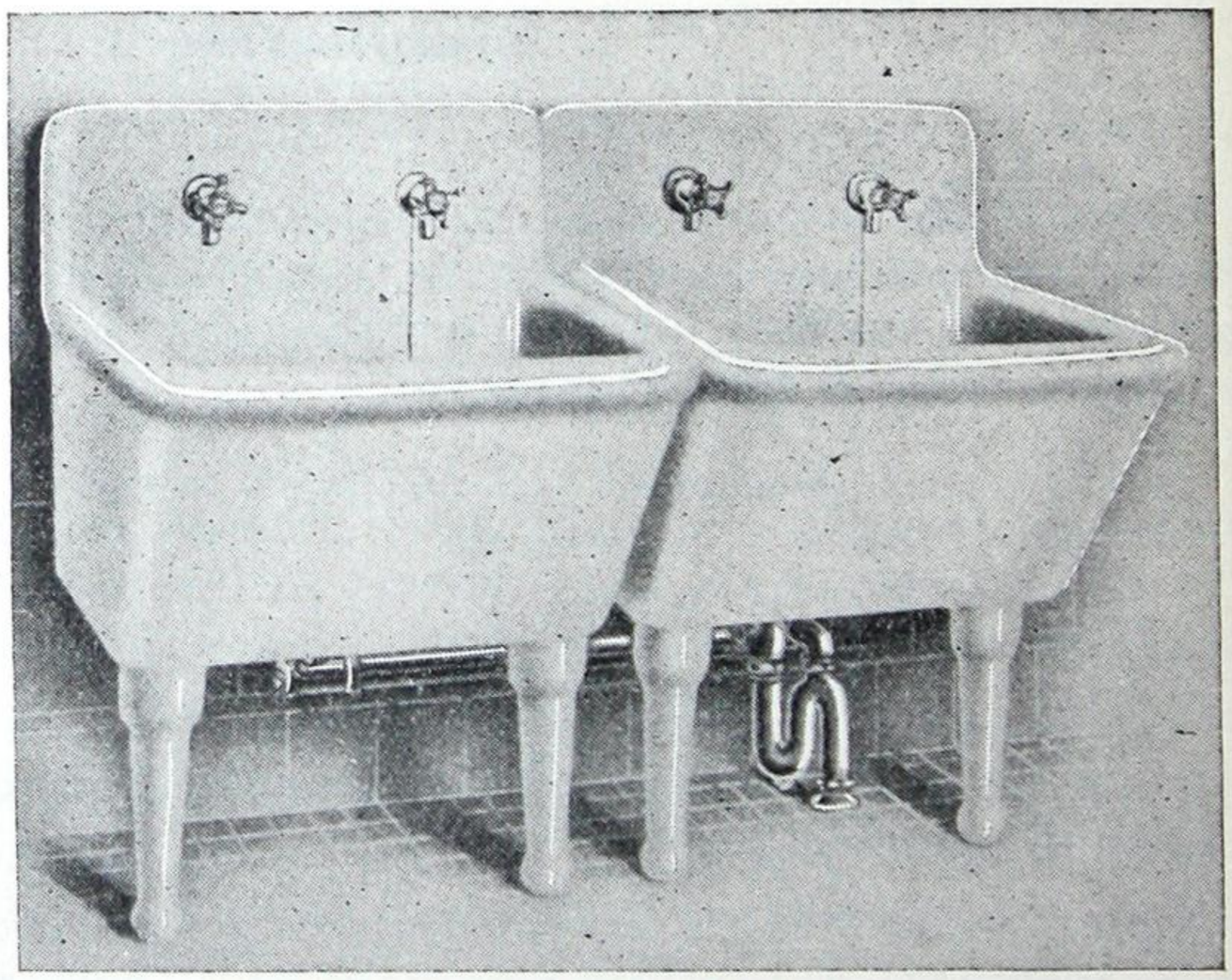
For Nickel-Plated Plug and Coupling with Rubber Stopper, add....Each $2.00
If with Iron Stands instead of Porcelain Legs, deduct....Per Pair 9.00

SPECIFICATION:

Plate G1900.b—Robertson's Imperial White Porcelain Laundry Trays, glazed inside and outside, with Integral Back, Porcelain Legs and Iron Wall Braces.

Depth, Inside, 14½″
Height, Back, 12″

Size outside...	26″ x 26″	29″ x 26″
	Price as described.	
Imperial White each	51.50	56.75
Colonial "	46.50	51.00



For Nickel-Plated Plug and Coupling with Rubber Stopper....Add Each $2.00
For Two-Part Nickel-Plated Waste with 1½″ Adjustable Vented "S" Trap and two Plugs and Couplings with Rubber Stoppers....Add 16.00
If with Iron Stands instead of Porcelain Legs....Deduct 9.00



SPECIFICATION:

Plate G1900.c—Robertson's Superior Grey Concrete Laundry Tray. This Tray has a smooth finish and includes Cast Iron Collar with Twin Connection, Brass Collars, Plugs and Overflow, and Cast Iron Wash Tray Stands.

Depth Inside, 16 inches.

	SINGLE.	DOUBLE.
SIZE	24″ x 24″	24″ x 48″
Price, as Described	$8.15	$11.65
" Without Cast Iron Stands	7.00	10.50

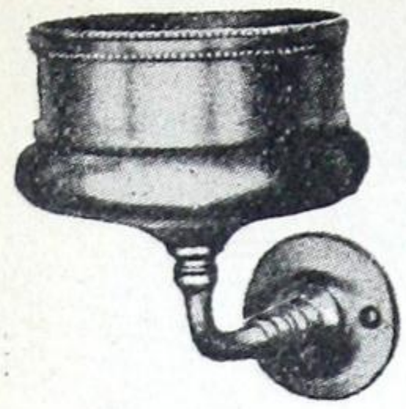


Fig. G1901.
Each..... $2.00

NICKEL-PLATED BRASS TUMBLER HOLDERS.

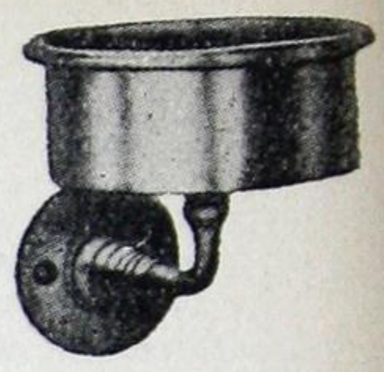


Fig. G1902.
Each..... $0.80



Fig. G1903.
Each..... $1.90

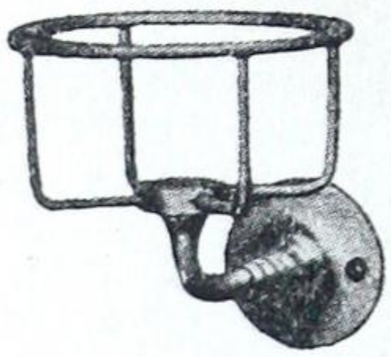


Fig. G1904.
Each..... $1.25

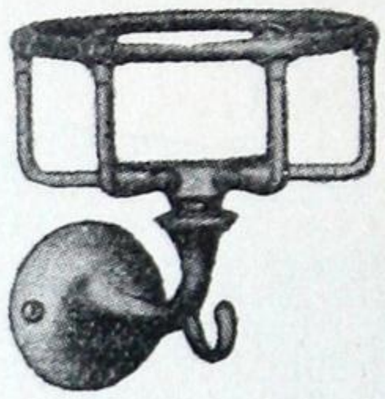


Fig. G1905.
Each..... $1.90



Fig. G1906.
Each.....$1.25

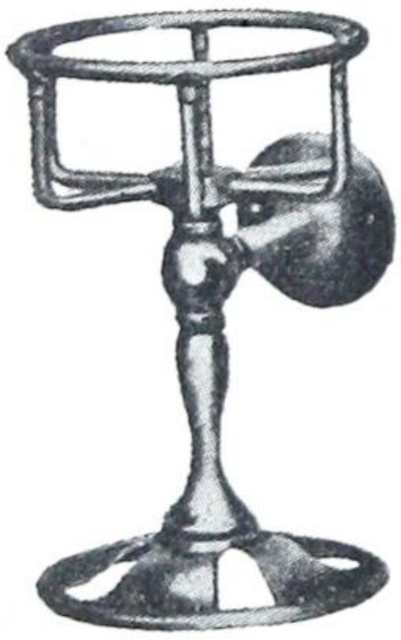


Fig. G1907.
Each..... $2.80

NICKEL-PLATED BRASS TUMBLER and TOOTH BRUSH HOLDERS.



Fig. G1908.
Each $1.75



Fig. G1909.
Each..... $2.70

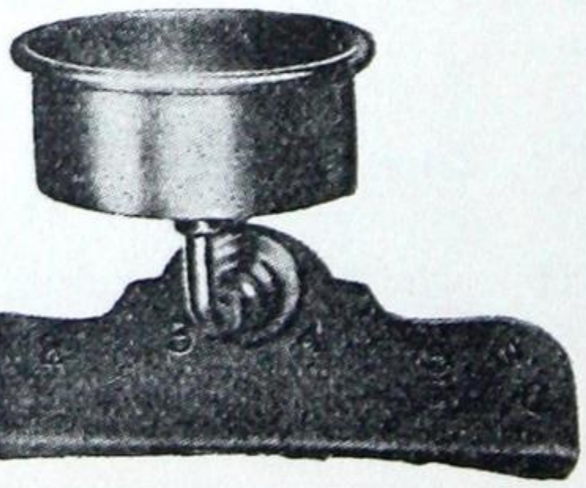


Fig. G1910.
Each..... $1.65



Fig. G1911.
Each..... $2.2

NICKEL-PLATED BRASS TOOTH BRUSH HOLDERS.

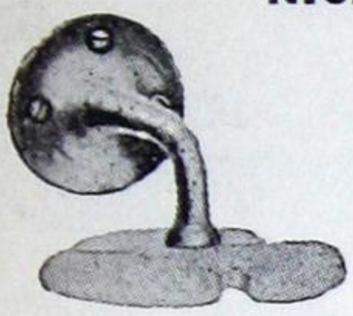


Fig. G1912.
Each.....$1.55



Fig. G1913.
Each.....$0.50



Fig. G1914.
Each..... $0.95



Fig. G1915.
Each $1.90

NICKEL-PLATED BRASS SOAP CUPS.

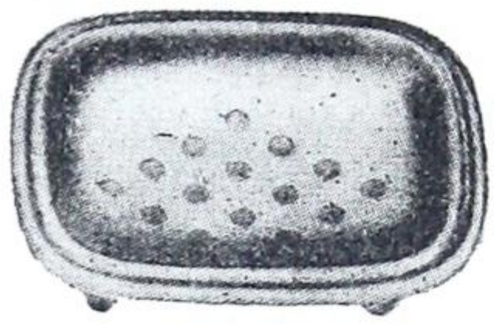


Fig. G1916.
Each..... $1.55

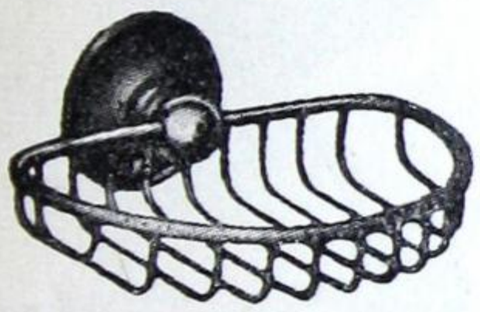


Fig. G1917.
Each.....$2.00

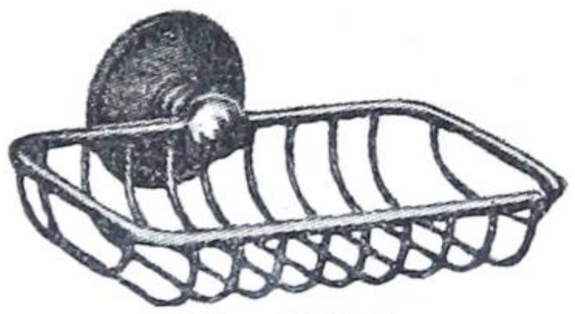


Fig. G1918.
Each..... $2.00

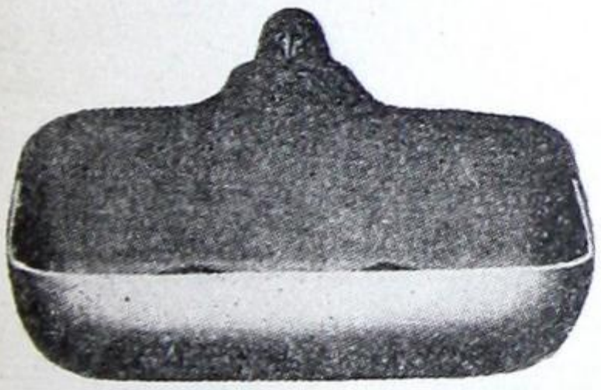


Fig. G1919.
Each..... $3.45

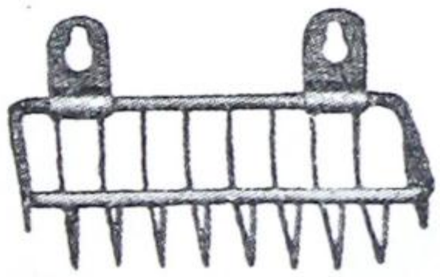


Fig. G1920.
Each..... $1.25



Fig. G1921.
Each..... $3.15

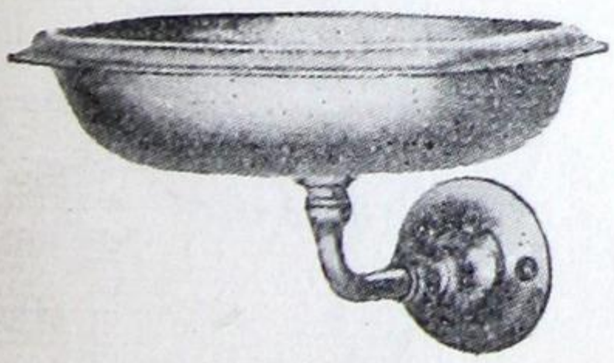


Fig. G1922.
Each..... $2.20

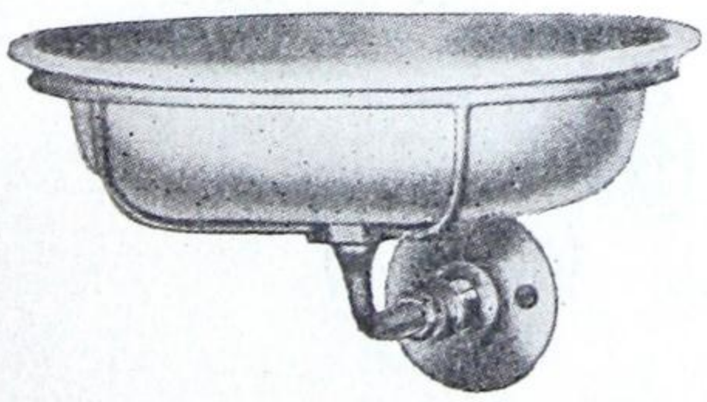


Fig. G1923.
Each..... $1.90

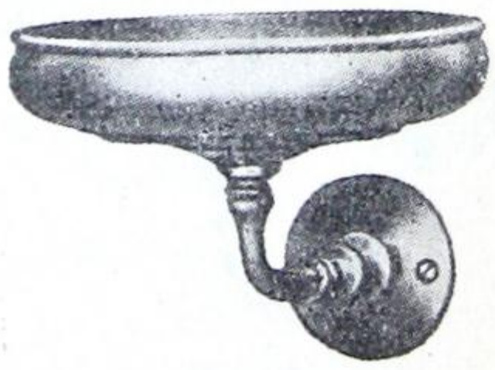


Fig. G1924.
Each..... $1.90

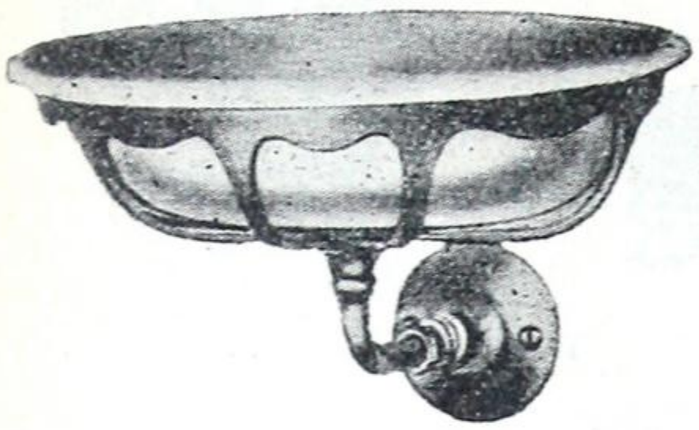


Fig. G1925.

Each $2.95

NICKEL-PLATED BRASS SOAP CUPS.



Fig. G1926.

Each..... $3.15



Fig. G1927.

Each..... $3.45

NICKEL-PLATED BRASS TUMBLER and SOAP HOLDERS.

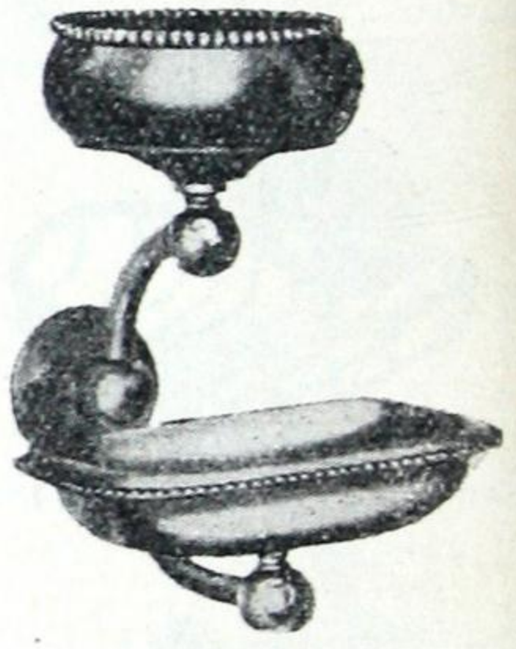


Fig. G1928.

Each..... $5.00



Fig. G1929.

Each..... $2.70



Fig. G1930.

Each..... $4.40



Fig. G1931.

Each..... $6.00

NICKEL-PLATED

BRASS

COMBINATIONS

for

SOAP and TUMBLERS.



Fig. G1932.

Each..... $4.70

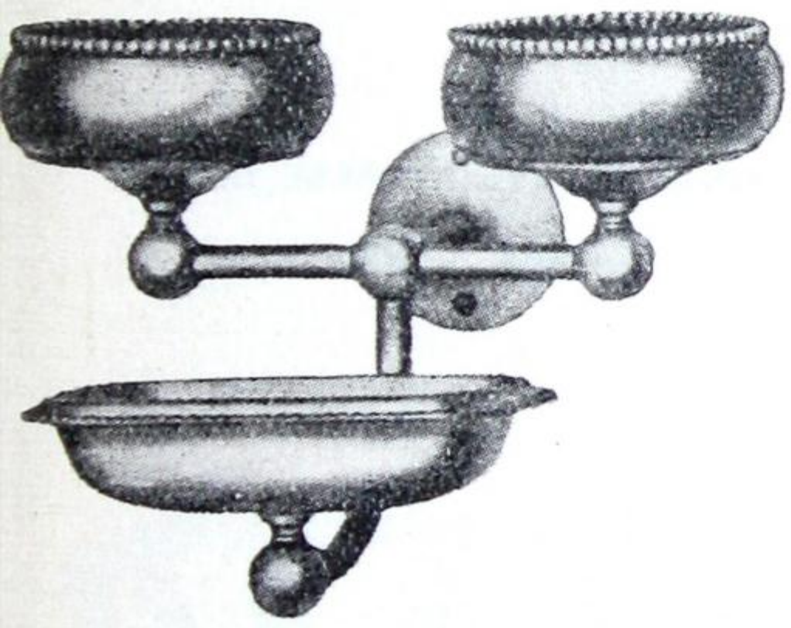


Fig. G1933.

Each..... $6.90

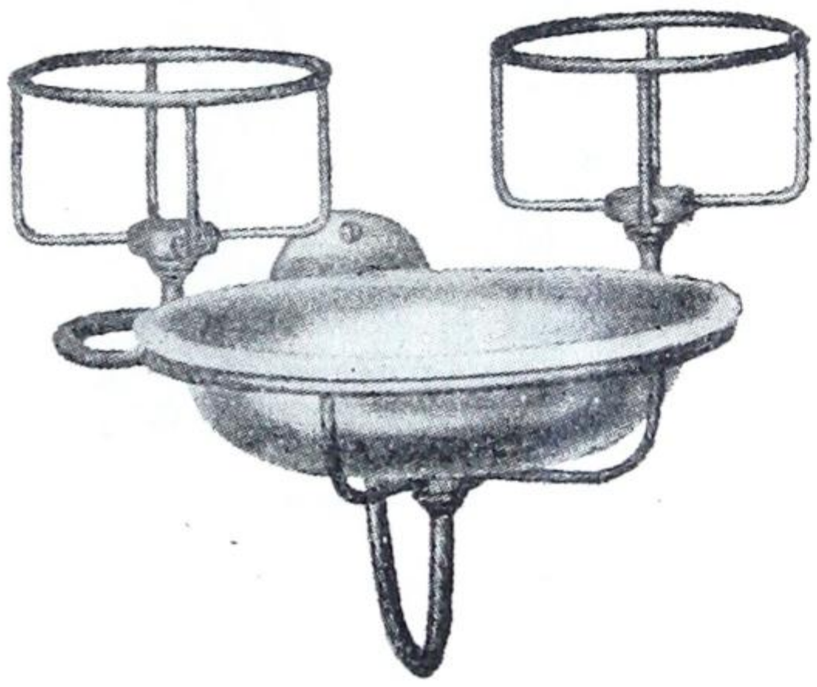


Fig. G1934.

Each..... $3 75



Fig. G1935.

Each..... $0.80

NICKEL-PLATED BRASS

WHISK BROOM HOLDER.

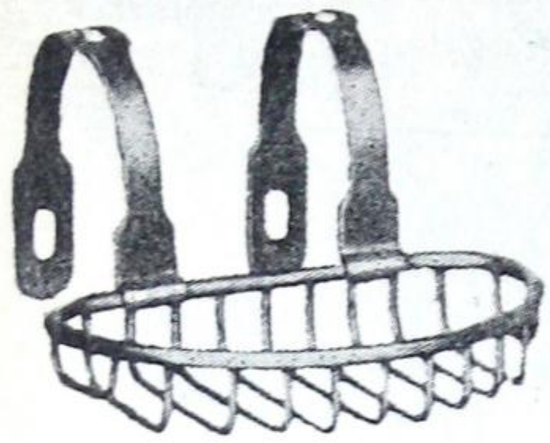


Fig. G1936.

Each..... $2.00

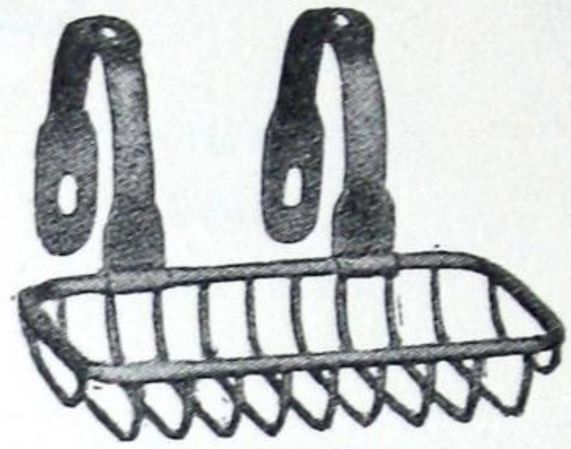


Fig. G1937.

Each..... $2.00

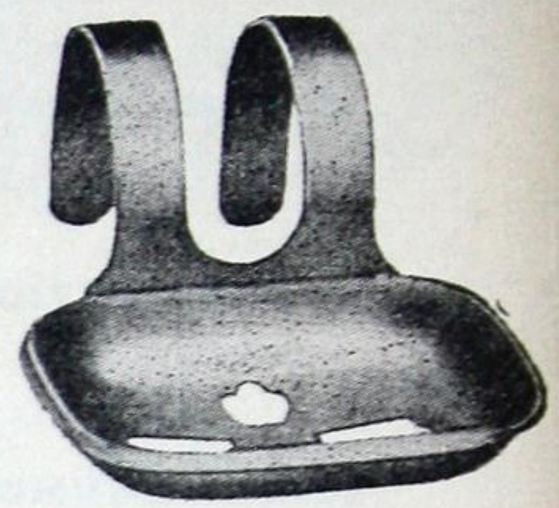


Fig. G1938.

Each..... $1.55



Fig. G1939.

Each..... $2.20

NICKEL-PLATED BRASS BATH SOAP CUPS.

NICKEL-PLATED BRASS SPONGE HOLDERS.

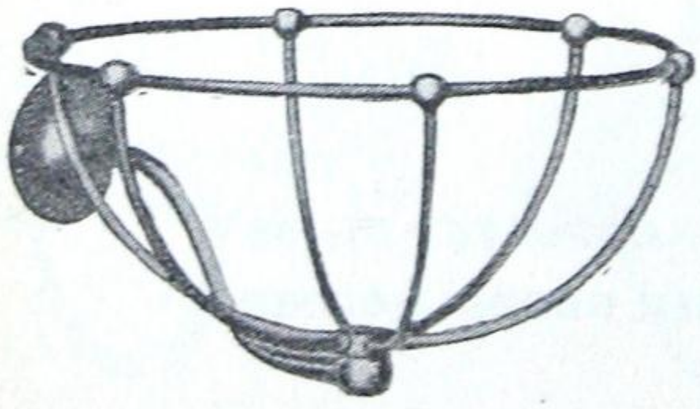


Fig. G1940.

Each.....$2.10



Fig. G1941.

Each..... $3.10

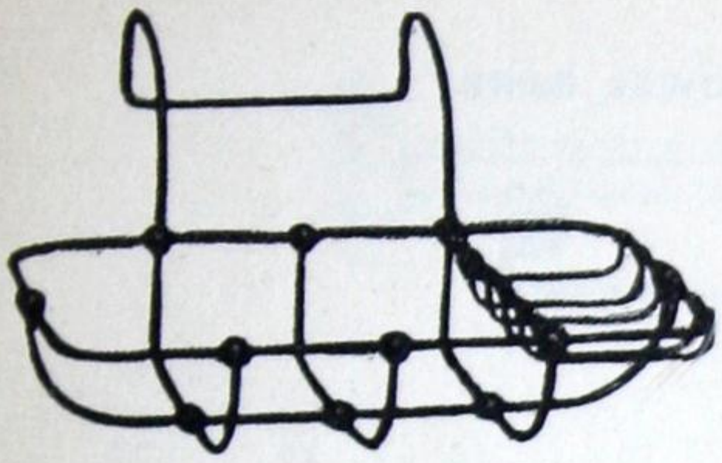


Fig. G1942.

Each..... $3.75

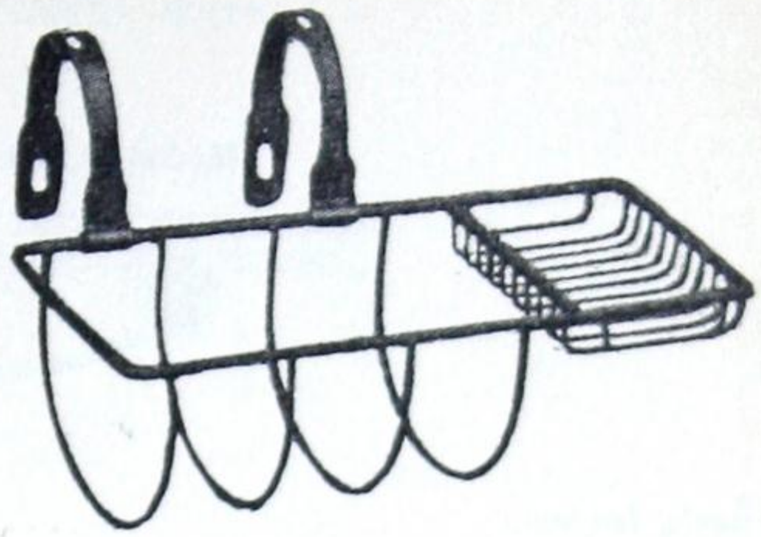


Fig. G1943.

Each..... $2.50

NICKEL-PLATED BRASS SOAP and SPONGE HOLDERS.



Fig. G1944.

Each..... $4.90

NICKEL-PLATED BRASS COMB AND BRUSH TRAYS.

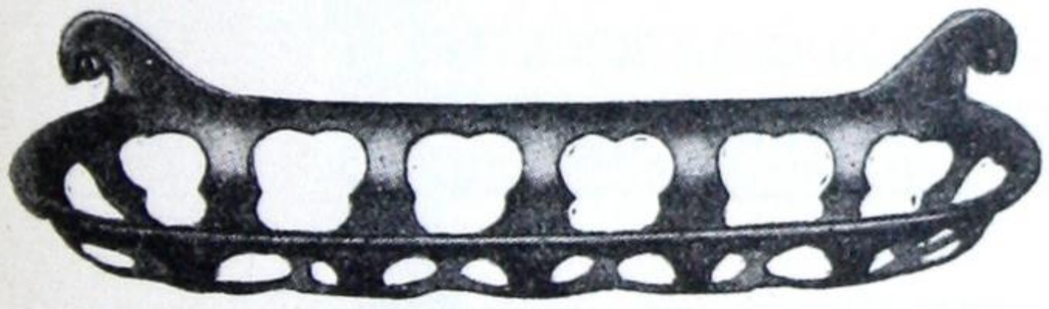


Fig. G1945.

Each..... $2.65



Fig. G1946.

Each..... $3.45

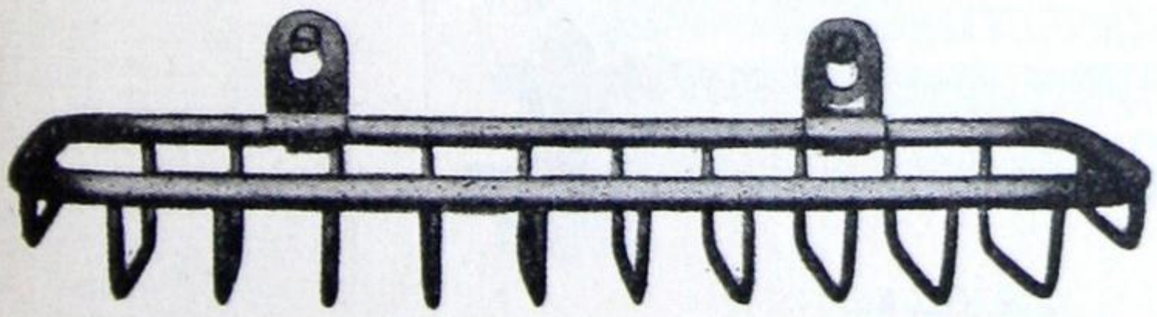


Fig. G1947.

Each..... $2.50

NICKEL-PLATED BRASS TOWEL BARS.



Fig. G1948.

Length, Inches	16	18	24	30	36
½-inch Diam. Each	$0.80	$0.90	$1.05	$1.25	$1.90



Fig. G1949.

Length, Inches	18	24	30	36
½-inch, Diam. Each	$1.65	$1.95	$2.15	$2.20

CRYSTAL OR OPAL GLASS TOWEL BARS WITH NICKEL-PLATED POSTS.



Fig. G1950.a

Length, Inches	18	24	30	36
1-inch Diam. Each	$3.25	$3.55	$4.40	$4.90
½ " " "	2.15	2.65		

NICKEL-PLATED BRASS TOWEL BARS.



Fig. G1950.b

Length, Inches	30	36
¾-inch Diam. Each	$2.80	$3.45

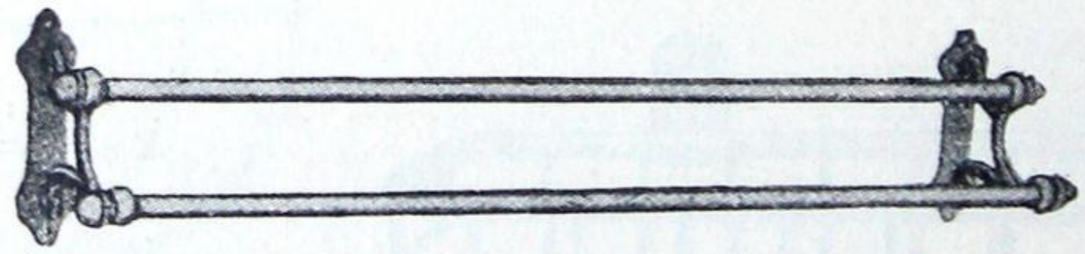


Fig. G1951.

Length, Inches	24
Each	$3.55

NICKEL-PLATED BRASS TOWEL BARS.

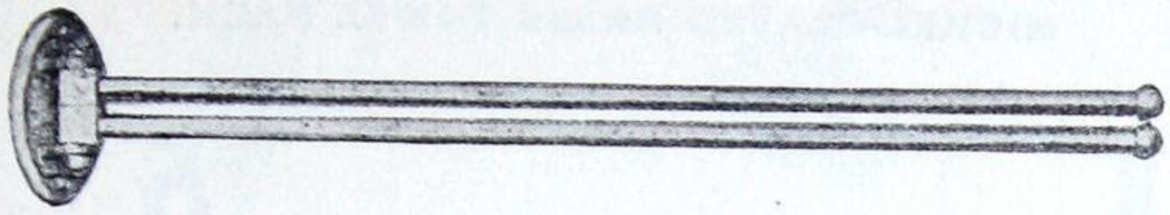


Fig. G1952.a

Length, Inches	15
⅜-inch Diam. Each	$1.65

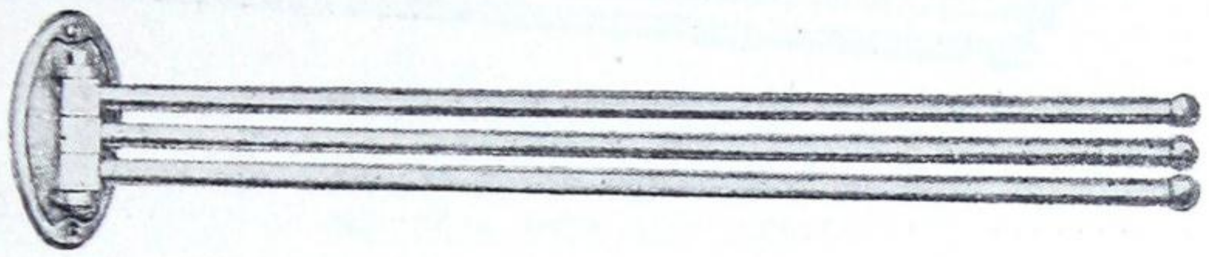


Fig. G1952.b

Length, Inches	15
⅜-inch Diam. Each	$1.90

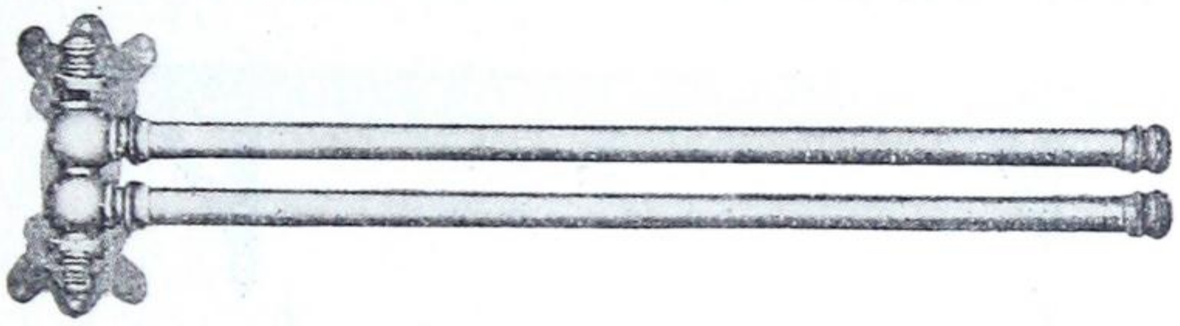


Fig. G1953.

Length, Inches	16
9/16-inch Diam. Each	$3.25

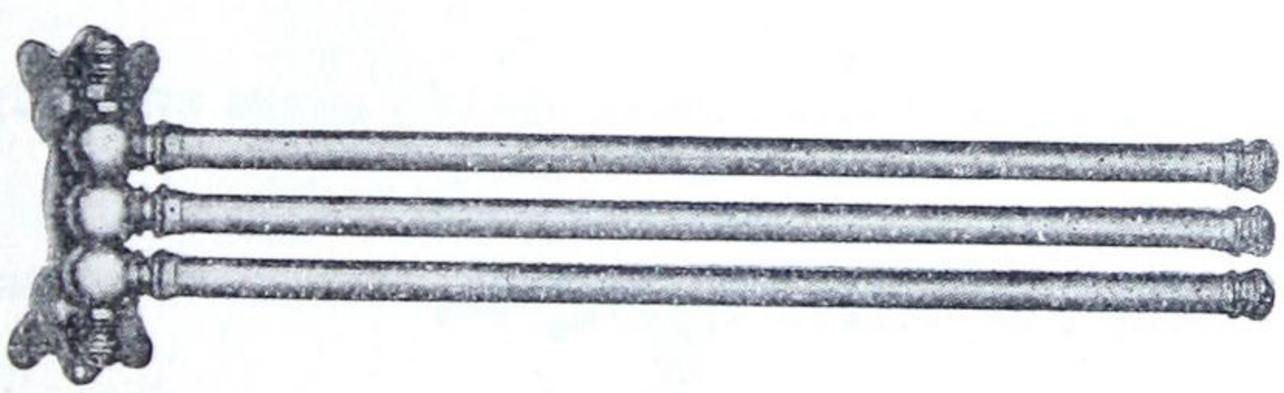


Fig. G1954.

Length, Inches	16
9/16-inch Diam. Each	$4.05

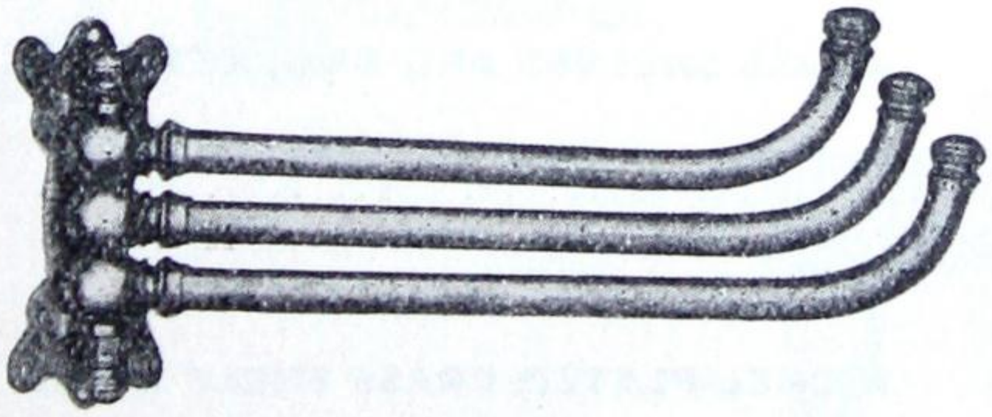


Fig. G1955.

Length, Inches	12
9/16-inch. Diam. Each	$4.05

NICKEL-PLATED BRASS TOWEL RACK.

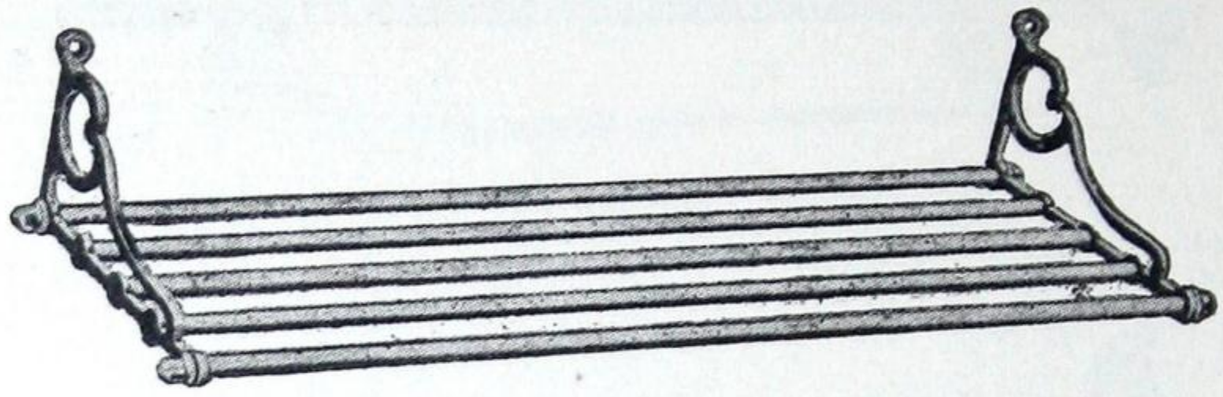


Fig. G1956.

Length, Inches	20
Width "	6½
Each	$5.40

PLATE GLASS SHELVES AND NICKEL-PLATED BRASS BRACKETS.



Fig. G1957.

Length, Inches	16	20	24
Width 5 inches. Each	$2.30	$2.50	$2.65

OPAL GLASS SHELF AND NICKEL-PLATED BRASS BRACKETS.



Fig. G1958.a.



Fig. G1958.b.
Showing Bracket.

Length, Inches	24
Width 5 Inches. Each	$5.95

GLASS SHELVES AND BRACKETS.

Length, Inches	20	24	30
Width 5 Inches. Each	$3.90	$4.05	$4.40
" 6 " "	4.05	4.40	4.70

NICKEL-PLATED BRASS SHELF RAILS.

Length, Inches	24	30
Width 5 Inches. Each	$2.65	$2.95
" 6 " "	2.65	2.95



Fig. G1959.
Each.....$0.30



Fig. G1960.
Each.....$0.40



Fig. G1961.
Each.....$0.45

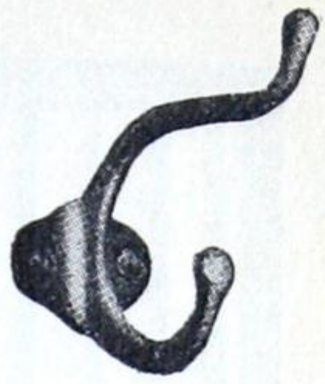


Fig. G1962.
Each.....$0.50



Fig. G1963.
Each..... $0.75

NICKEL-PLATED BRASS

ROBE HOOKS.



Fig. G1964.
Each..... $0.95



Fig. G1965.
Each..... $1.55



Fig. G1966.
Each..... $2.20



Fig. G1967.
Each..... $1.15



Fig. G1968.
Each..... $1.00

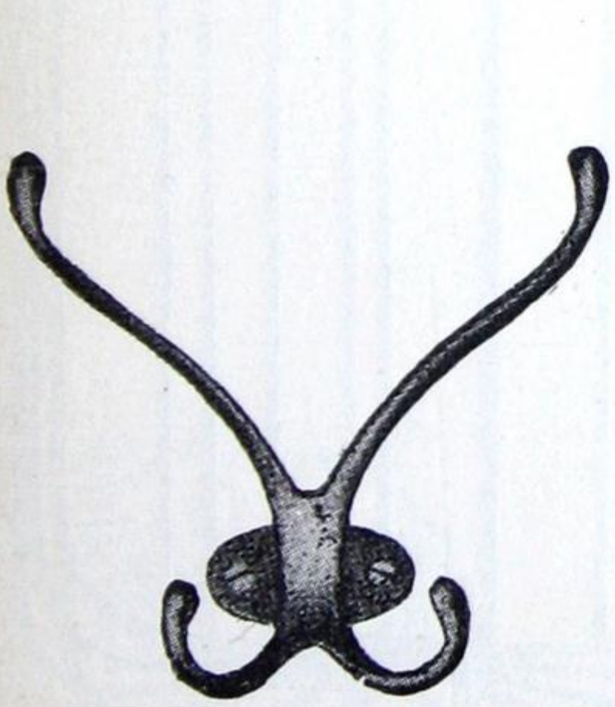


Fig. G1969.
Each..... $3.25



Fig. G1970.
Each..... $0.50

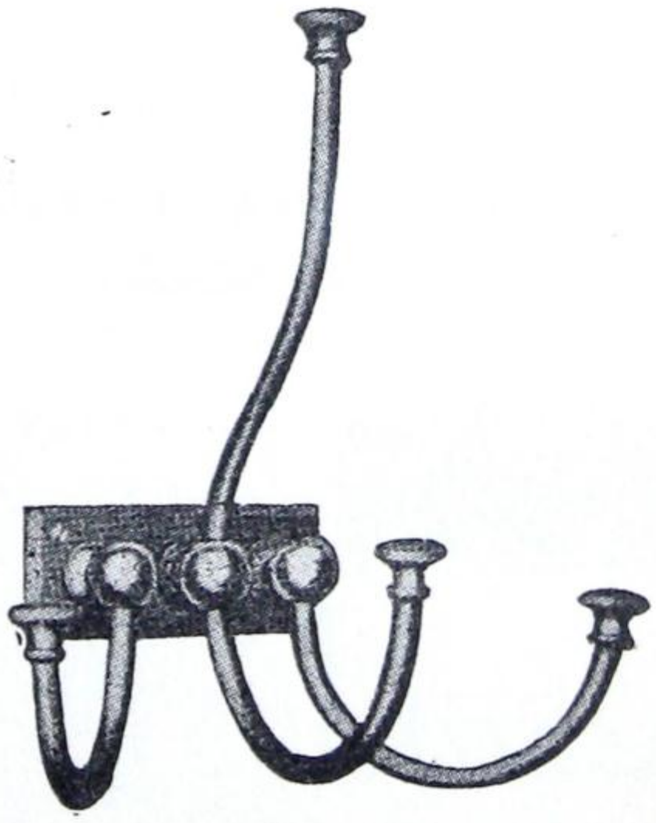


Fig. G1971.
Each..... $3.15

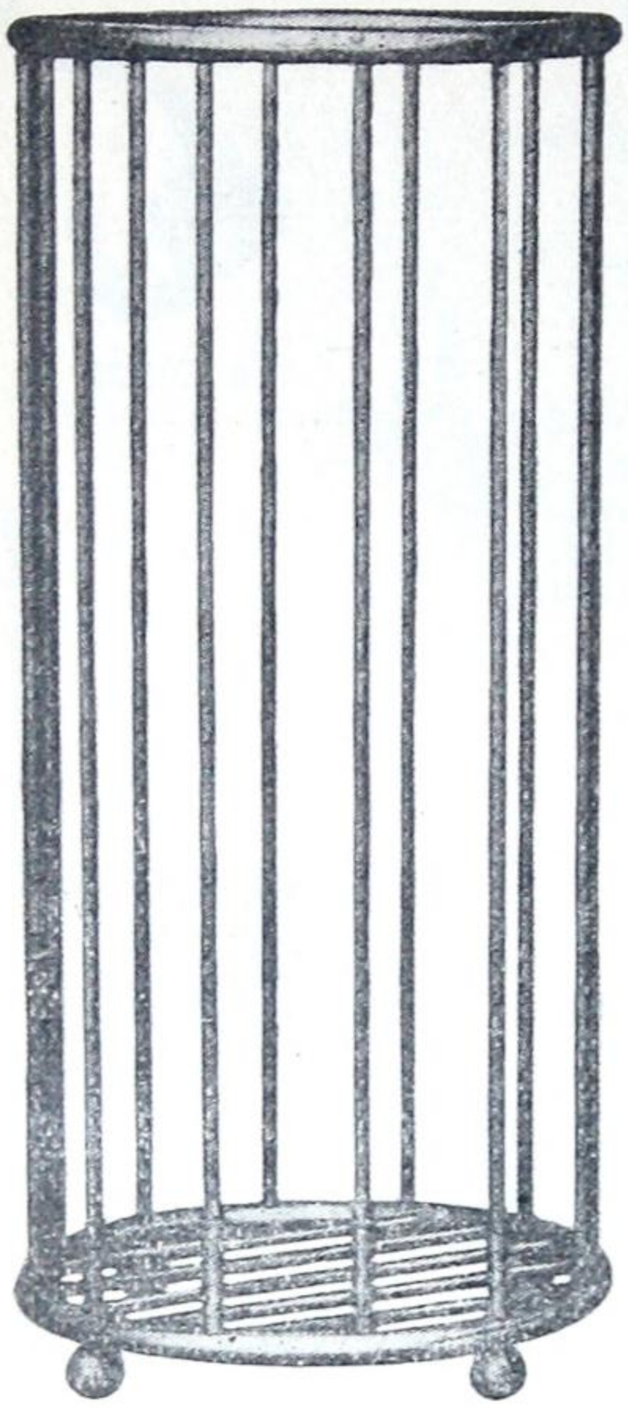


Fig. G1972.

NICKEL-PLATED BRASS
TOWEL BASKET.

Each..... $13.75

NICKEL-PLATED BRASS
TOWEL BASKET.

Each..... $11.00



Fig. G1973.

NICKEL-PLATED BRASS TOILET PAPER HOLDERS.



Fig. G1974.

Each..... $2.20

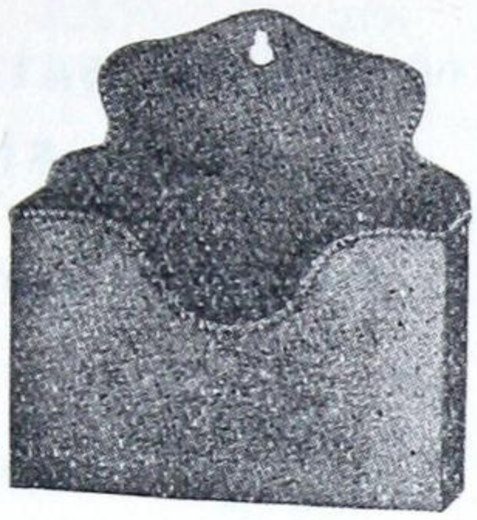


Fig. G1975.

Each..... $2.20



Fig. G1976.

Each..... $2.65

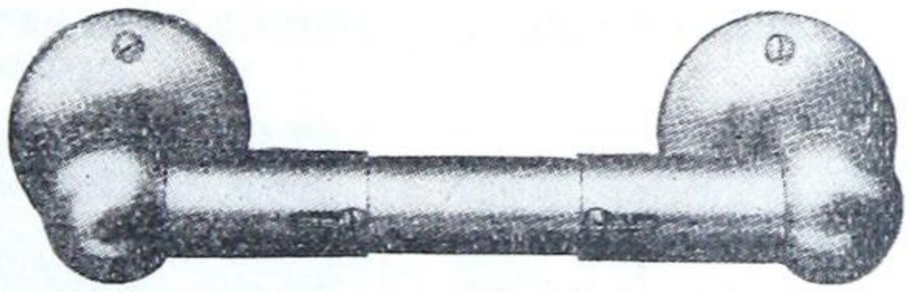


Fig. G1977.

Each..... $4.00



Fig. G1978.

Each..... $1.50

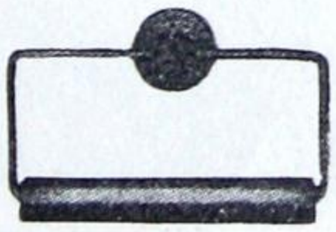


Fig. G1979.

Each..... $0.80



Fig. G1980.

Each..... $1.25

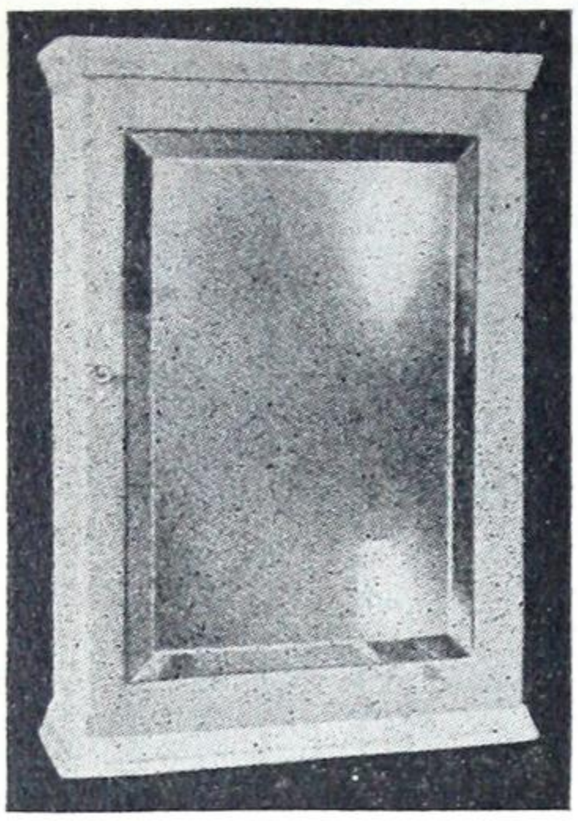


Fig. G1981.

"PYRALIN" WATERPROOF BATH ROOM FIXTURES.

Pure White, Warranted not to change Color.

MEDICINE CABINET.

23 inches high, 15¼ inches wide, 4 inches deep.
With Two Glass Shelves.

Each..... **$47.50**

TOWEL BARS and NICKEL-PLATED BRASS BRACKETS.



Fig. G1982.

Length, Ins.	24	30	36	42	48	60
Each.....	$4.70	5.30	5.95	6.55	7.20	7.80

TOILET SHELVES WITH NICKEL-PLATED BRASS BRACKETS.

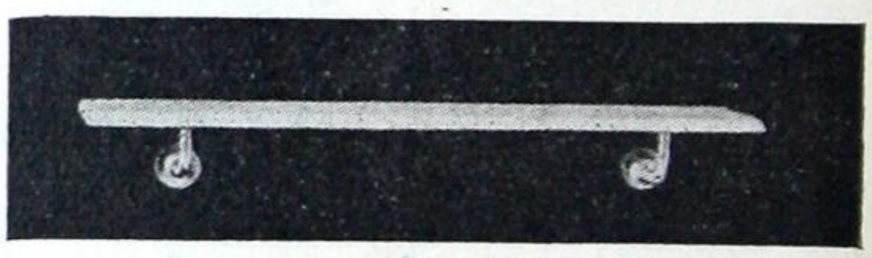


Fig. G1983.

Length, Ins.....	27	**30**
Width 5 inches. Each.....	$5.95	**7.50**

BATH SEAT WITH RUBBER COVERED ENDS.

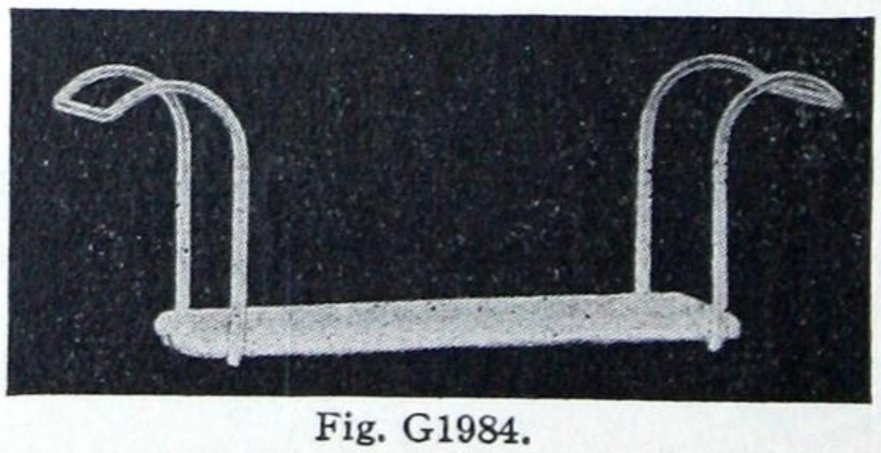


Fig. G1984.

Each..... **$7.80**

"PYRALIN" WATERPROOF BATH ROOM FIXTURES.

Pure White, Warranted not to change Color.

BATH ROOM CHAIR.

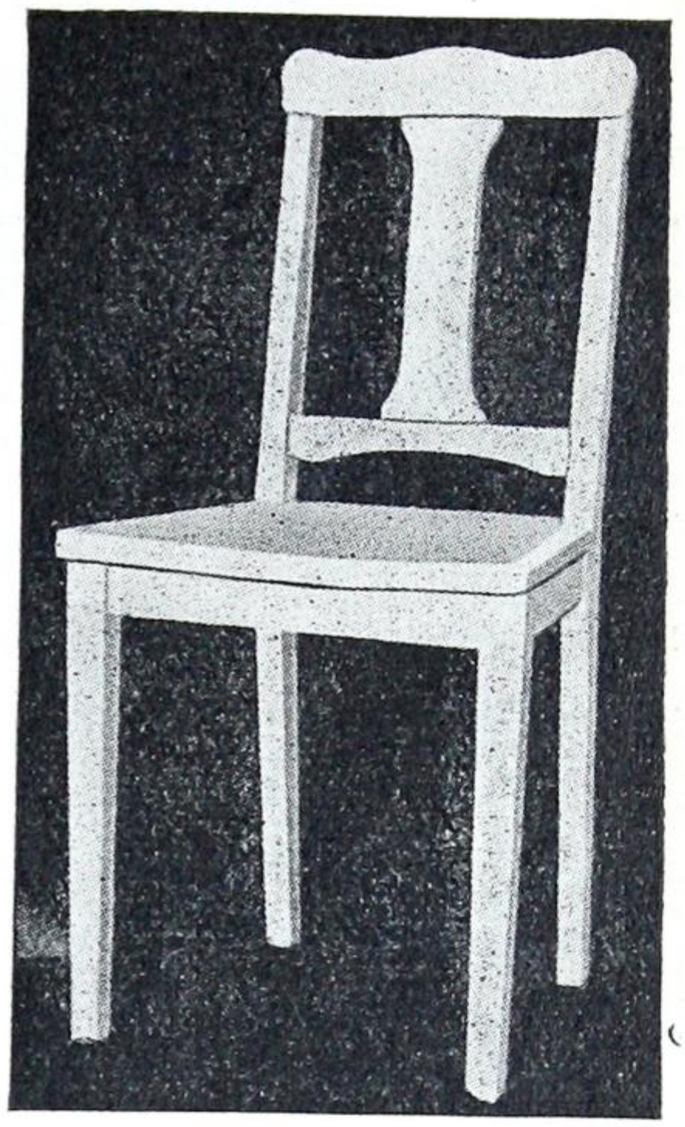


Fig. G1985.

Each..... $41.90

"PYRALIN" BATH ROOM STOOLS.

No. 1. **No. 2.**

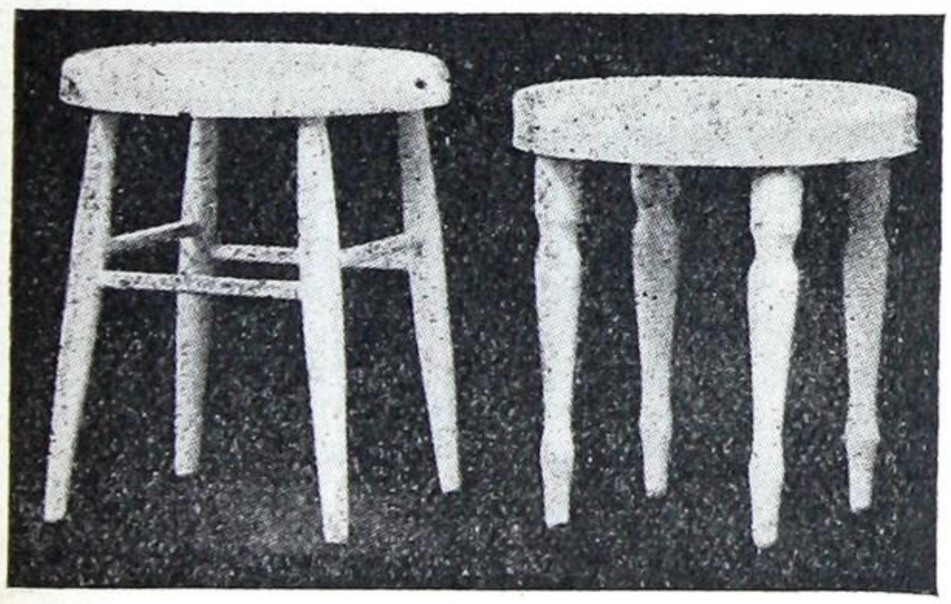


Fig. G1986.
Each.....$12.50

Fig. G1987.
Each.....$12.50

WHITE ENAMEL BATH STOOL.

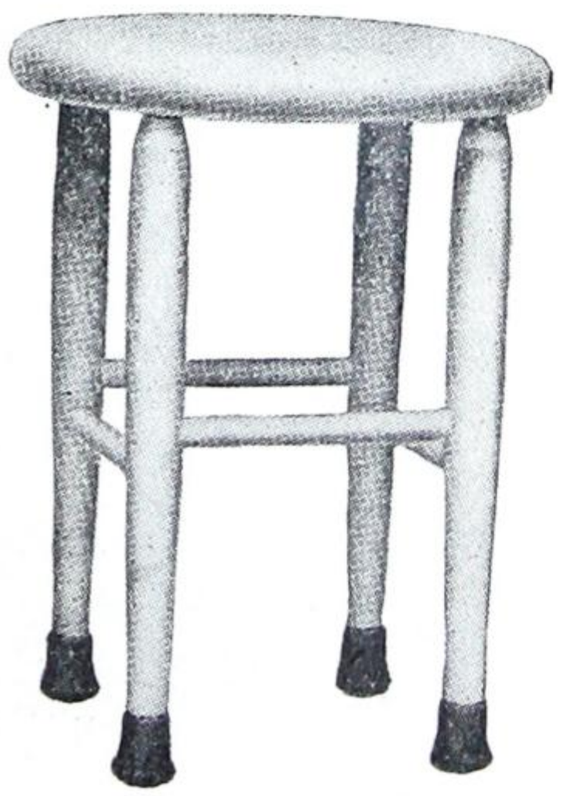


Fig. G1988.

Each..... $4.05

WHITE ENAMEL MEDICINE CABINETS.

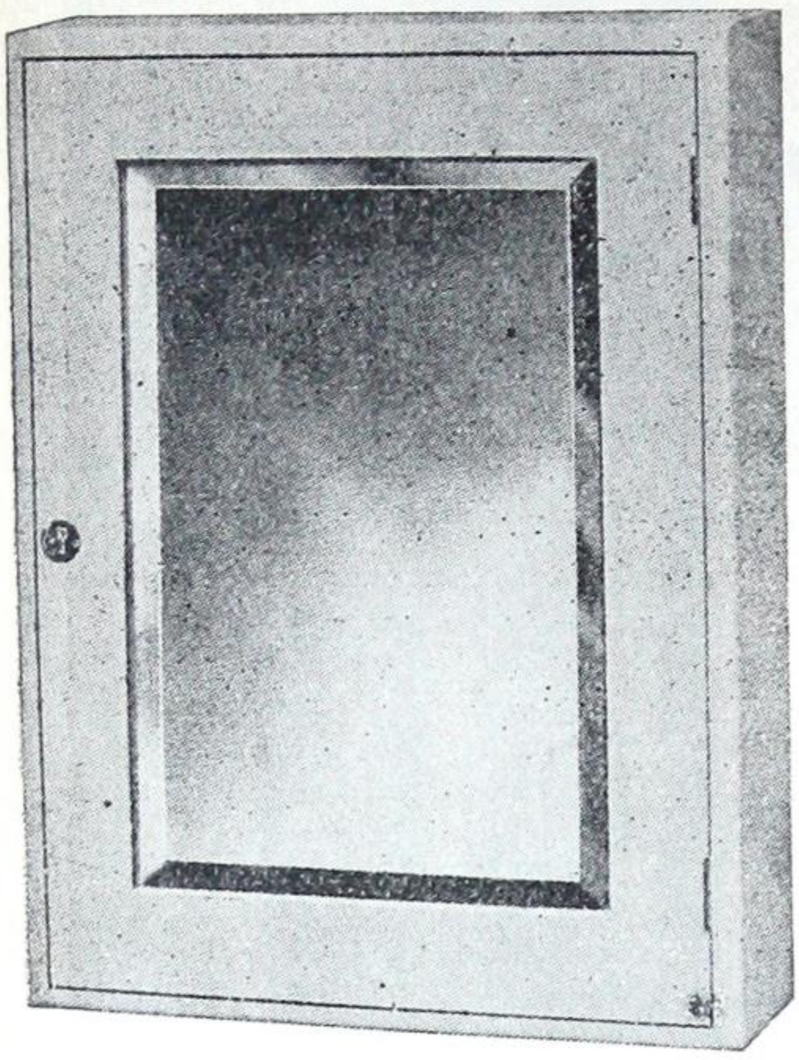


Fig. G1989.

With 18 x 12 inch French Bevel

Mirror in Door. Each.....$17.20

With Panel Door. Each..... 13.45

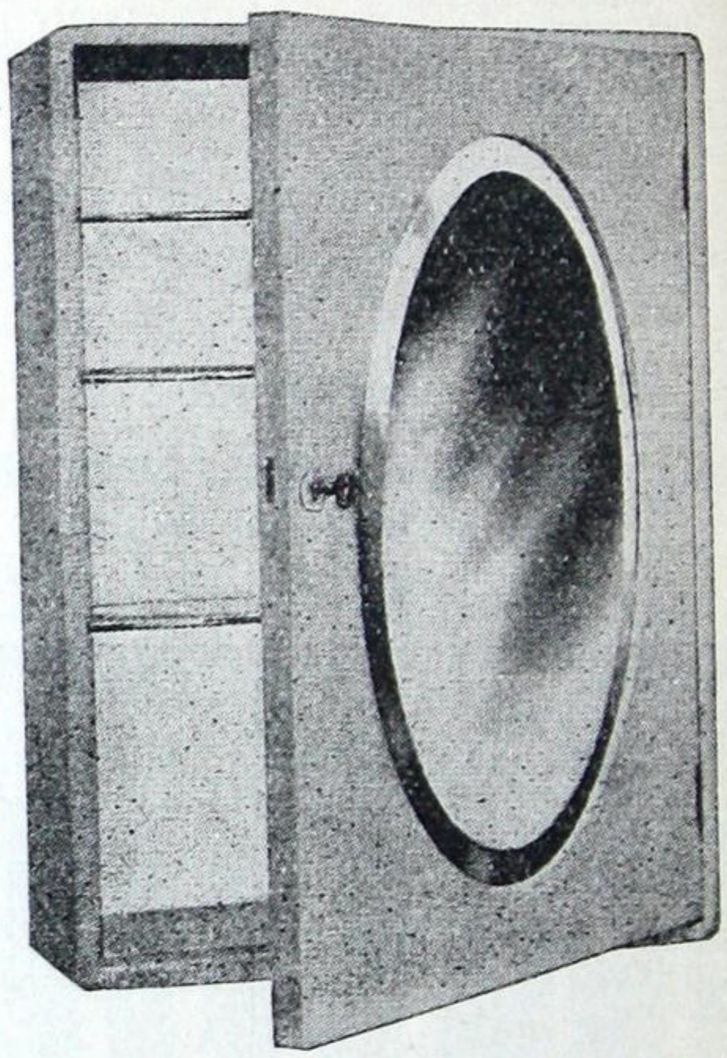
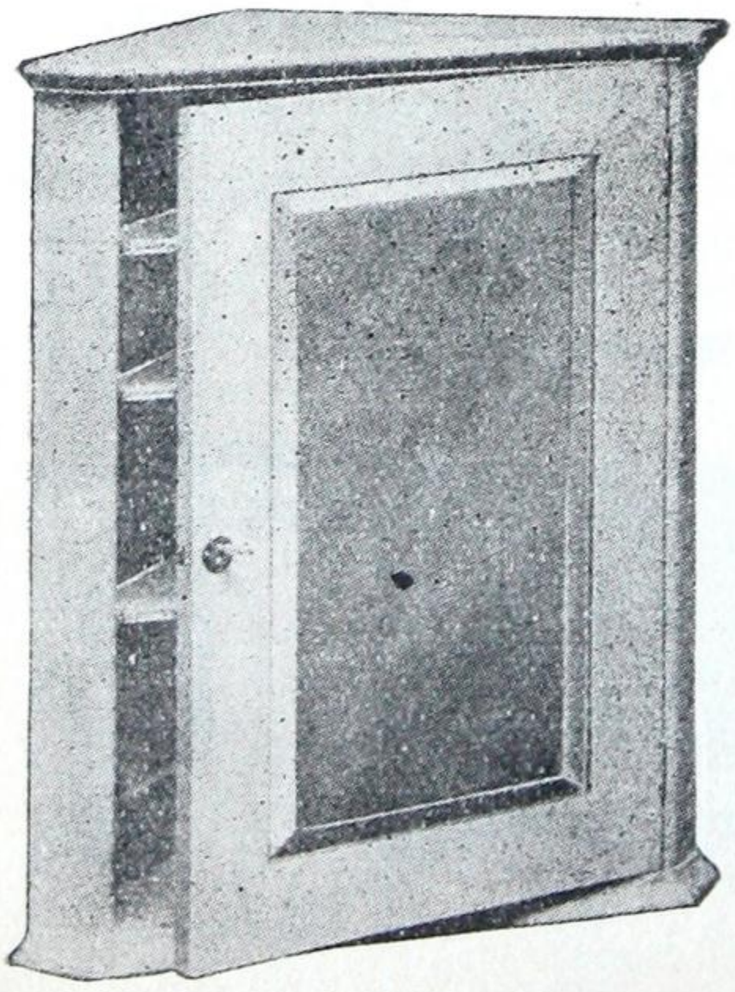


Fig. G1990.

With 18 x 12 inch French Bevel Mirror in Door.

Each..... $18.75



CORNER CABINET.

Fig. G1991.

With 18 x 12 inch French Bevel Mirror in Door.

Each.....$21.00

SANOID FRAME MIRRORS.



Fig. G1992.

Size, Inches.....	20 x 14	24 x 16	28 x 18
Width of Frame, Inches....	1¼	1⅜	1½
Each.....	$10.30	$12.50	$16.00

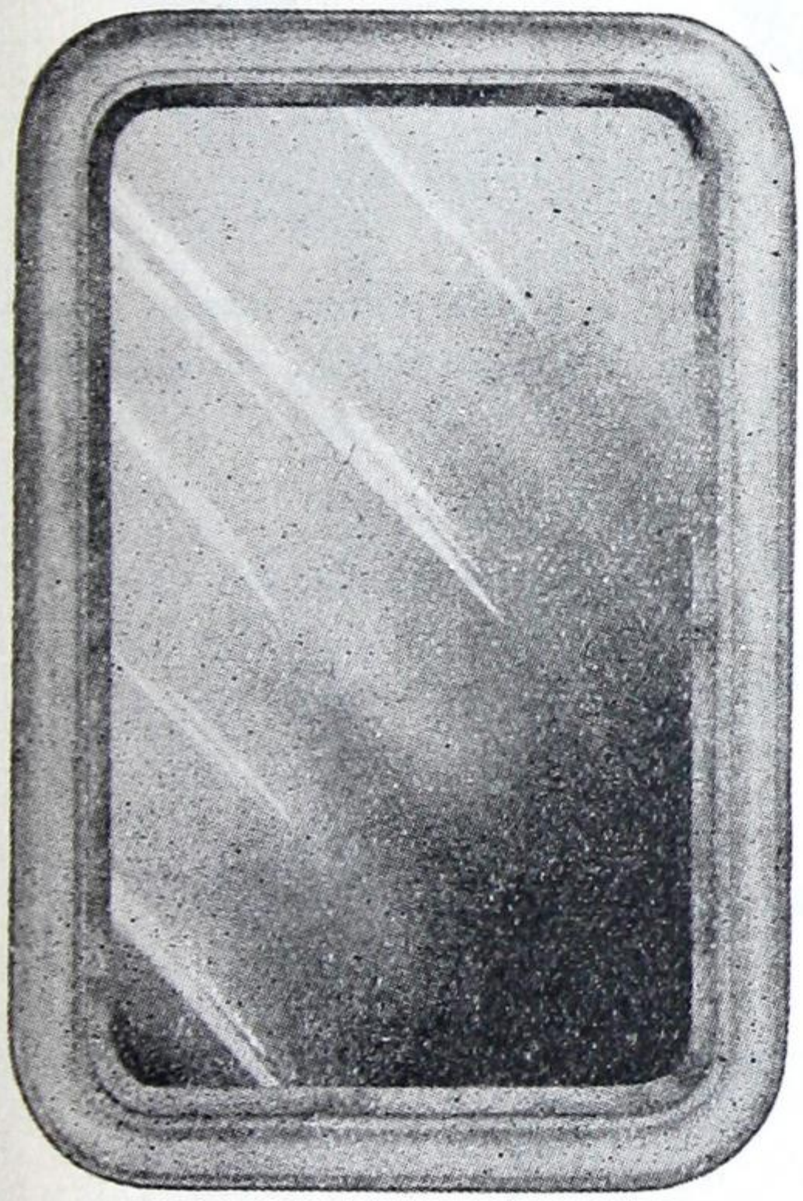


Fig. G1993.

Size, Inches.....	20 x 14	24 x 16	28 x 18	30 x 20
Width Frame, Inches	1¼	1⅜	1½	1½
Each.....	$10.30	$12.50	$15.95	$19.70



Fig. G1994.

Size, Inches.....	20 x 14	24 x 16	28 x 18	30 x 20
Width Frame, Inches	1¼	1⅜	1½	1½
Each.....	$10.30	$12.50	$16.00	$19.75

NICKEL-PLATED BRASS FRAME, SEALED BACK, FRENCH BEVEL PLATE MIRRORS.



Fig. G1995.

10-Inch Mirror. Each..$14.70

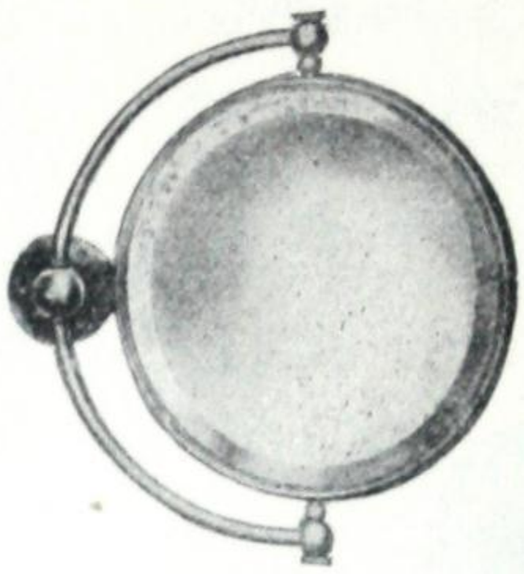


Fig. G1996.

10-Inch Mirror. Each..$11.55

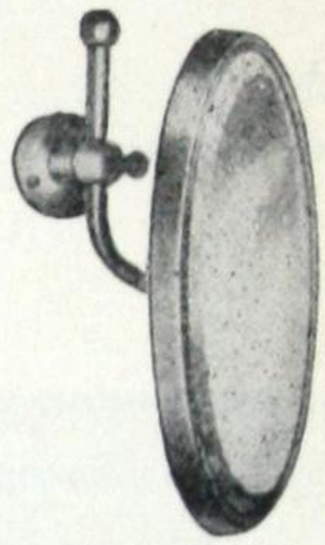


Fig. G1997.

8-Inch Mirror. Each.. $8.10
10-Inch Mirror. Each...$9.70

WHITE ENAMEL BEVEL GLASS MIRRORS.



Fig. G1998.

Size Centre, Inches	24 x 24	20 x 20	14 x 14
Size Wings "	24 x 18	20 x 14	14 x 10
Each	$62.50	$45.00	$25.00

BATH TUB SEATS.

Universal.
Maple.

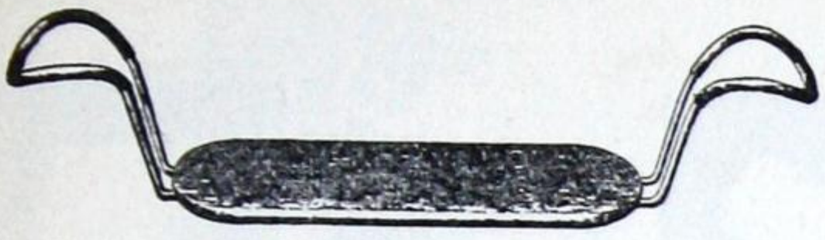


Fig. G1999.a

Each..... $1.40

Climax.
Oak.



Fig. G1999.b

Each..... $1.55

Empire Oak for Roll Rim Baths.

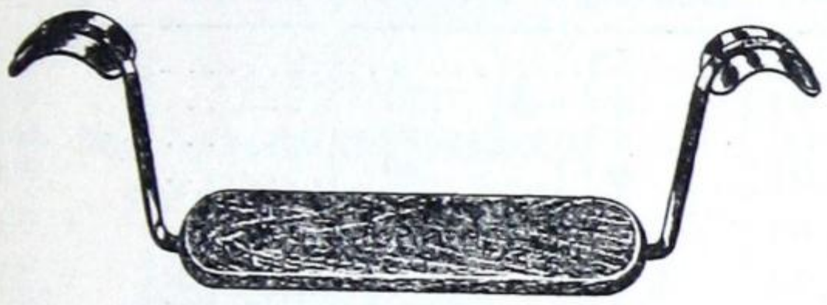


Fig. G1999.c

Each..... $2.95

Empire Oak for Flat Rim Baths.



Fig. G1999.d

Each..... $2.95

Oak for Roll Rim Baths.



Fig. G1999.e

Each..... $3.30

Oak for Flat Rim Baths.



Fig. G1999.f

Each..... $3.30

White Canvas Seat.

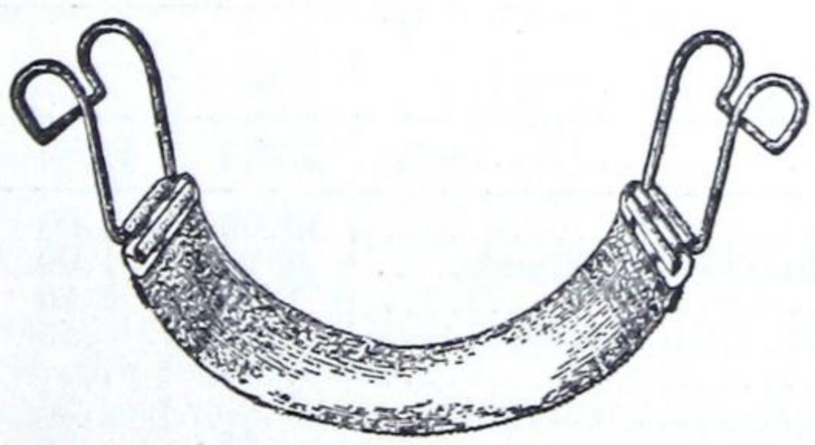


Fig. G2000.

Each..... $2.80

PIPE STOCKS WITH SOLID DIES.

STOCK. DIE. BUSHING or GUIDE. FRAME.

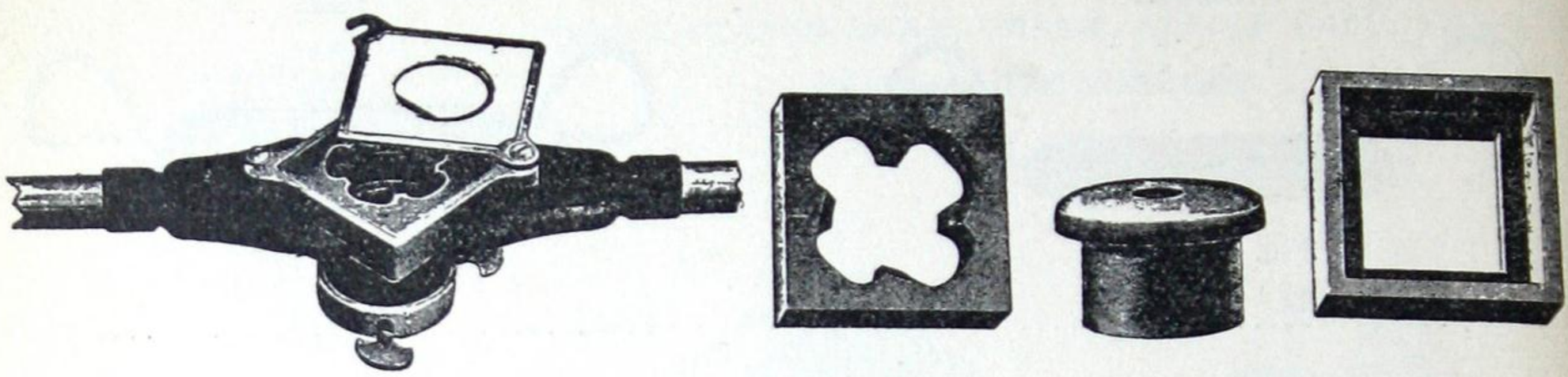


Fig. G2001. Fig. G2002. Fig. G2003. Fig. G2004.

No.	Threads	Size of Dies	Die Plate Complete	Die Plate only	Extra Dies	Extra Bushing	Extra Die Frames	Leader Screws	Brass Face Plates
0.....	⅛ to ¼	2 x ½	$ 8.00	$ 3.00	$ 1.40	$ .30	.....	.....	$ .40
1.....	¼ to 1	2½ x ¾	10.50	3.50	1.60	.40	$ .30	.....	.60
1½.....	¾ to 1¼	3 x ¾	9.50	4.00	2.00	.60	.40	.....	.80
1¾.....	1 to 1½	3 x ¾	9.50	4.00	2.00	.60	.40	.....	.80
2.....	1¼ to 2	4 x ⅞	14.50	8.50	2.50	.75	2-1 .80 2-1½ .50	$ 2.00	1.00
3, 2 arm...	2½ to 3	5 x 1¼	35.00	20.00	9.00	2.00	.60	3.00	1.25
4, 4 arm...	2½ to 3	5 x 1¼	42.00	26.00	9.00	2.00	.60	3.00	1.25

No. 2 and larger have leader screws.
Always be careful to mention size of stock when ordering extra parts.

ARMSTRONG'S ADJUSTABLE STOCK AND DIES.

No. 2.



Fig. G2012.

No. 7.

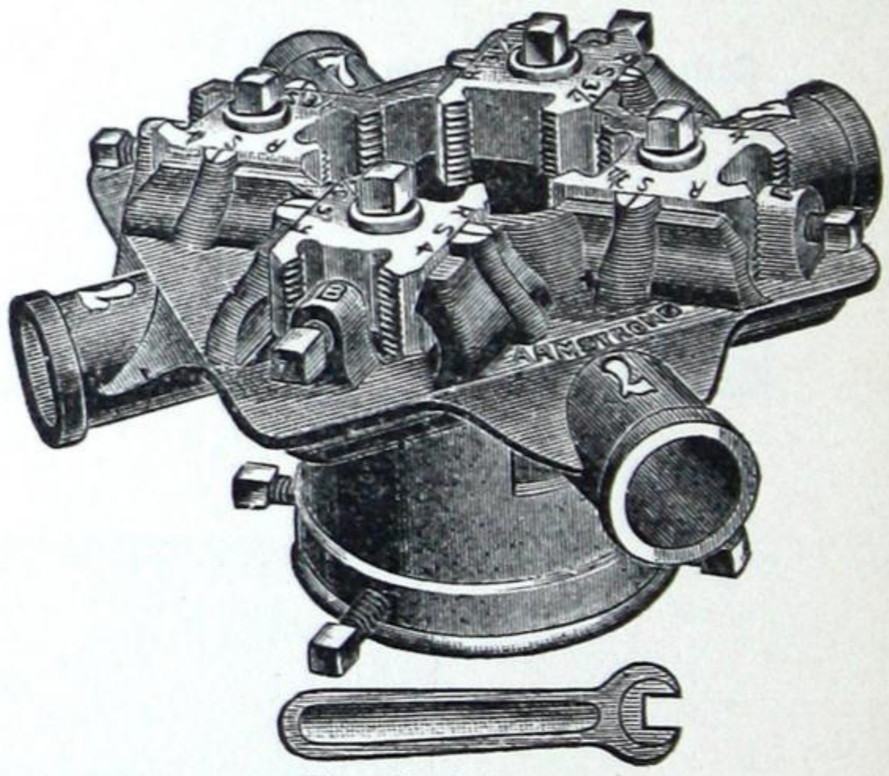


Fig. G2013.

Number.....	1	2	2½	3	7
Thread Pipe.....Inches	⅛ to ½	¼ to 1	½ to 1¼	1 to 2	2½ to 4
Price complete with Right Dies.....	$9.00	$12.00	$14.00	$21.00	$75.00
Die Stock only with Screws, Handles and Wrench.....	3.25	4.00	5.25	7.00	30.00
Extra Dies.....	1.60	2.00	3.50	4.50	20.00
" Bushings.....	.30	.40	.60	.75	3.00
" Leader Screws.....	....	....	....	....	6.00
" Wrenches.....	.20	.25	.25	.30	.30
" Collar Screws.....	.25	.30	.35	.50	.50
" Adjusting Screws.....	.20	.25	.35	.40	.40

Prices of Dies mean per set of 2 pieces, Nos. 1, 2, 2½ and 3, and per set 4 pieces No. 7.
No. 2½ has double ended Dies, ½ in. x ¾ in. and 1 in. x 1¼ in.

ARMSTRONG PIPE MACHINES.

No. 0. HAND.

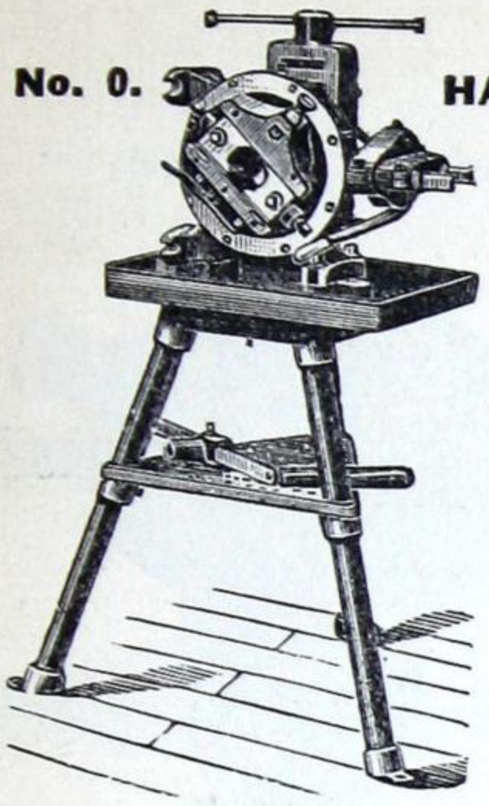


Fig. G2016.

No. 0. POWER.

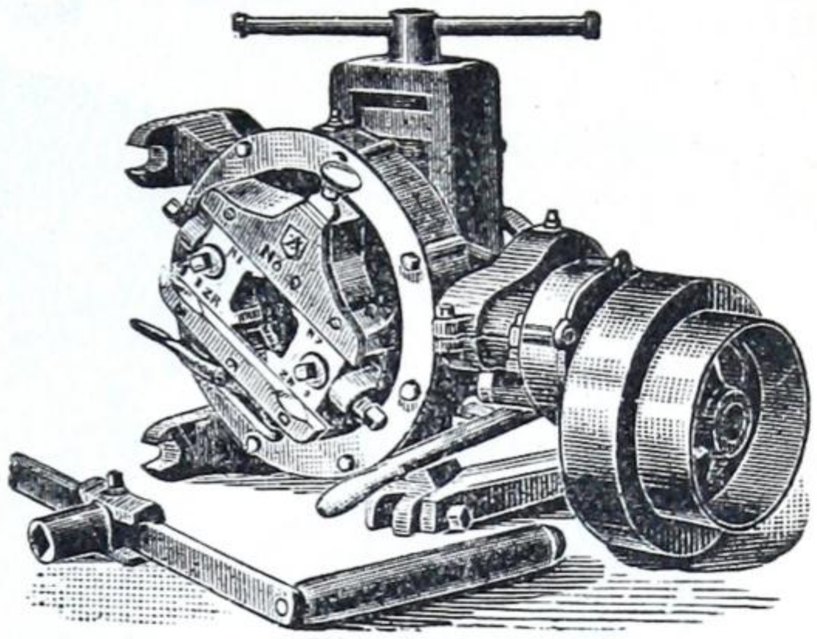


Fig. G2017.

No. 00. HAND OR POWER.

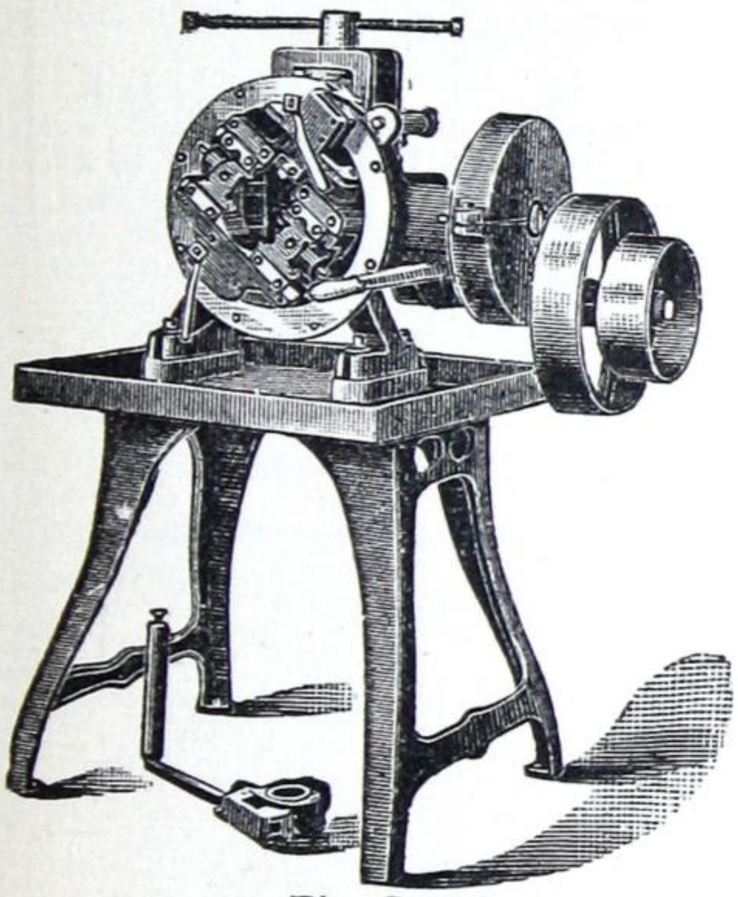


Fig. G2018.

No. 3. POWER.

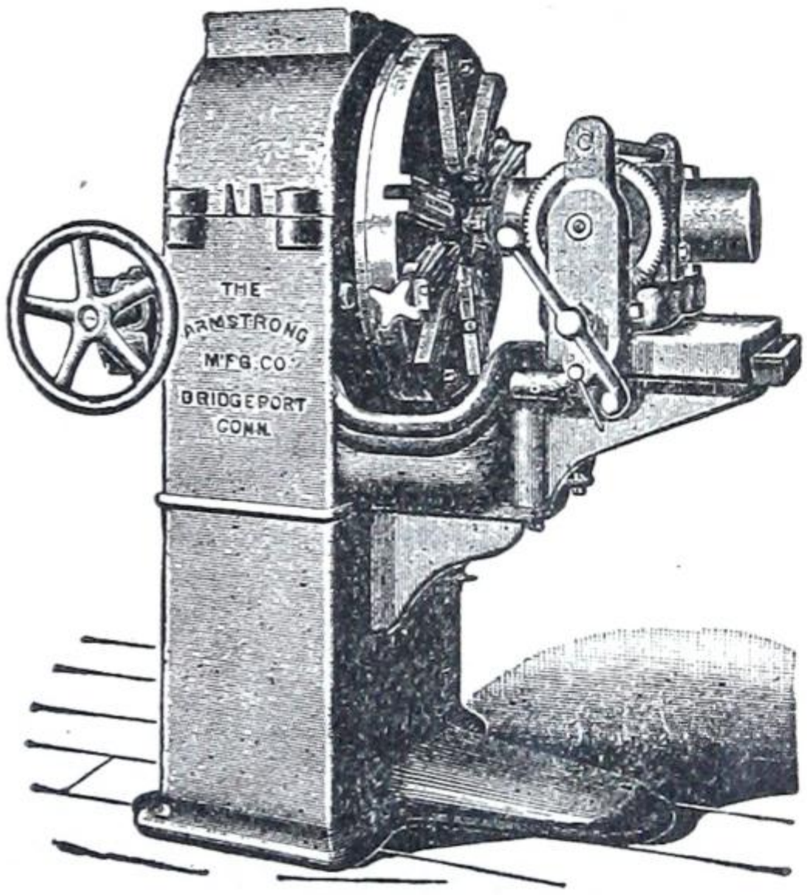


Fig. G2019.

Number.....	0	00	1½	3
Threads Pipe.....	¼ to 2	1 to 4	1 to 4	1 to 6
Price hand machine {with stand and R.H. Dies} ea.	$70.00	$148.00	.....	.....
" power do do do	113.00	218.00	316.00	550.00
If required without stand, deduct.....	10.00	20.00	.....	.....
Extra Dies, 2½ and 3—3½ and 4, per set.	.....	15.00	.....	.....
Extra Bits, per set.....	....	.....	15.00	20.00
Weight of hand machine, lbs.....	245	675	.....	.....
" power " "	450	600	900	1250
Speed of countershaft, Rev. per Minute	260	300	325	325
No. Steps.....	2	2	3	3
Dia. of Pulleys and Face, inches.....	8¼ & 6¼ x 2¼	14 & 9 x 3½	12 & 9¼ & 6½ x 3½	12 & 9¼ & 6½ x 3½
Dia. of Driving Pulley and Face, inches	8 x 2¼	12 x 4	12 x 4	12 x 4

Countershafts are equipped with Friction Clutch Pulleys. All Power Machines include countershaft. A portable pipe stand goes with each machine.

Dies for No. 0 Machine ¼ to 1 same as No. 2 Stock and 1¼ to 2 same as No. 3 Stock.
" " 00 " 1 to 2 same as No. 3 Stock.
Bits for No. 1½ " are in one set of 4 double ended, one end threads 1 to 2, and the other 2½ to 4.
" " 3 " are in two sets of 6 each, one set threading 1 to 2 at one end, 2½ and 3 at the other; the other set threading 3½ to 4½ at one end and 5 to 6 at the other.

Note.—No. 1½ is on Base similar to No. 3. Nos. 00, 1½ and 3 have Cut-off Attachments.

JARDINE PIPE DIE STOCKS.

No. 9.



Fig. G2021.

No. 11.



Fig. G2022.

No. 11. RATCHET.

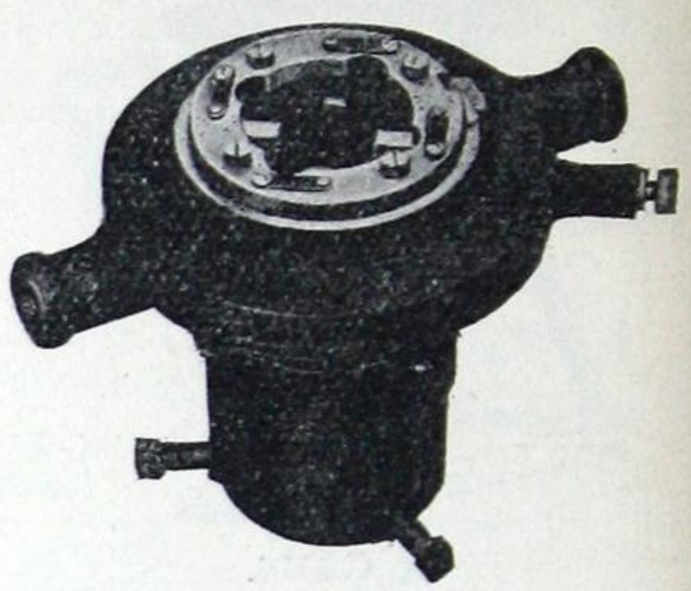


Fig. G2023.

Number	9	10	11	11 R
Capacity Pipe	⅛" to ¾"	1" to 2"	1" to 2"	1" to 2"
Set Dies	5	4	4	4
Price with Right Dies	$16.00	$30.00	$24.00	$31.00
Extra Dies, per Set (4 pieces)	2.00	3.15	2.50	2.50

No. 22.

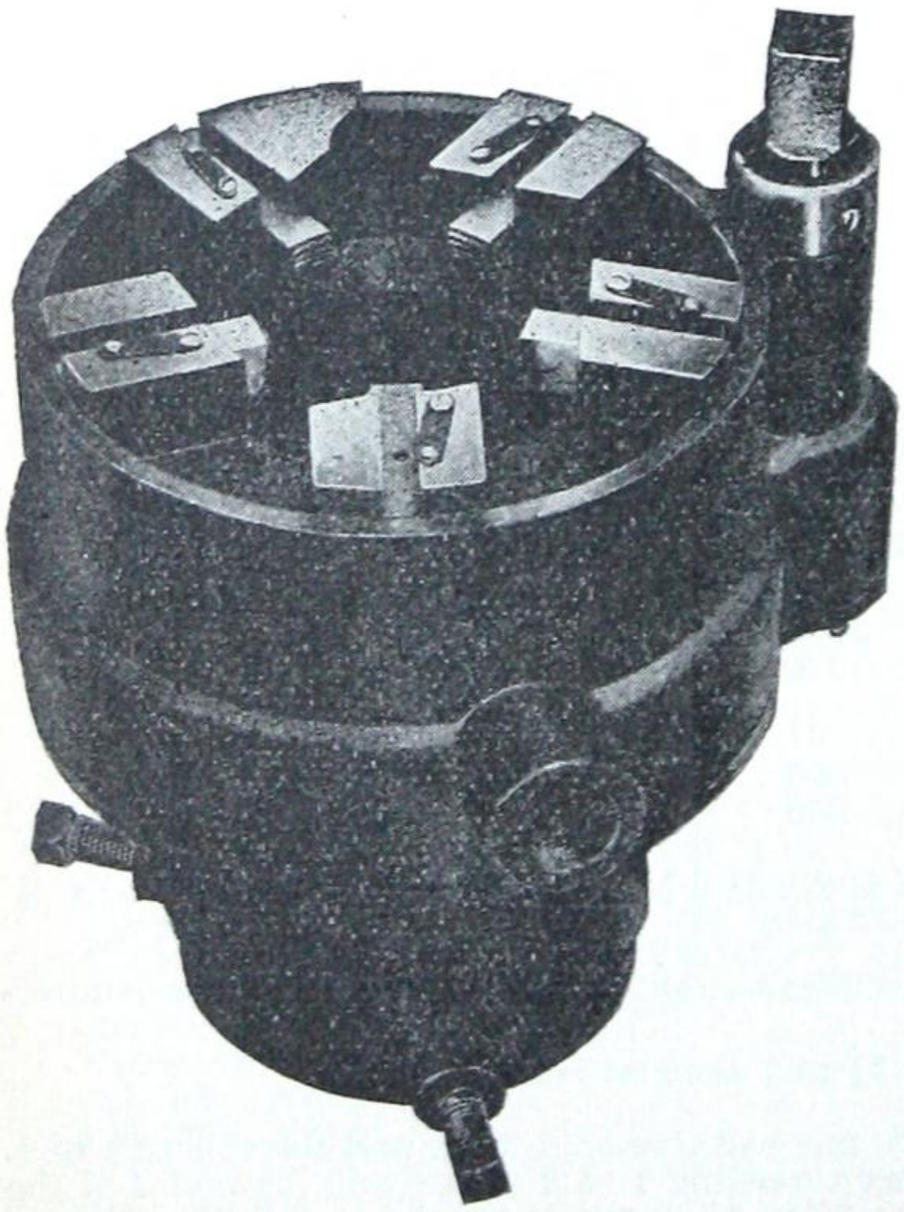


Fig. G2024.

Gear and Pinion Encased—Ratchet supplied.

Weight, 70 lbs.	
Capacity Pipe	2½" to 4"
Sets of Dies	4
Price With Right Dies	$102.00
Extra Dies, per Set (5 pieces)	8.75

TOLEDO PIPE DIE STOCKS.

No. 1.

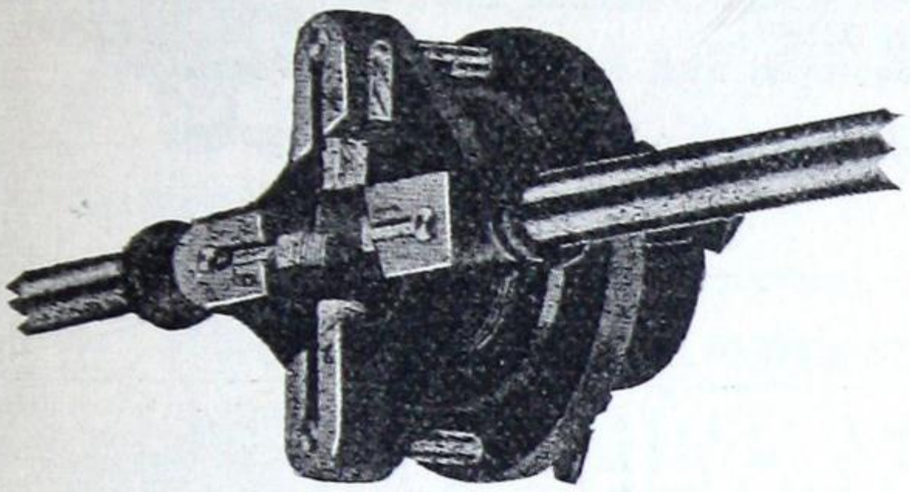


Fig. G2026.

No. 1. RATCHET.

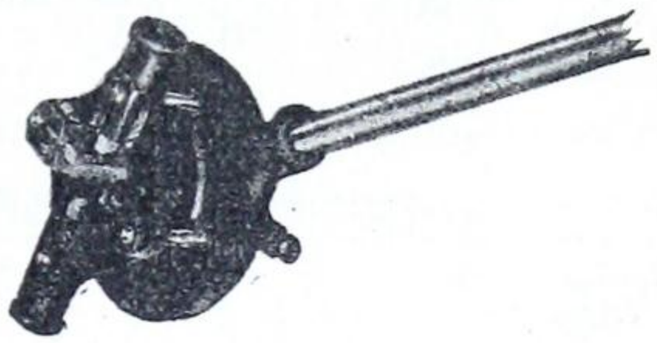


Fig. G2027.

Number	1	1 R	1½ R
Capacity Pipe	1″ to 2″	1″ to 2″	2½″ & 3″
Set Dies	4	4	2
Price with Right Dies	$24.00	$31.00	$55.00
Extra Dies per Set (4 pieces)	2.50	2.50	4.40

No. 2.

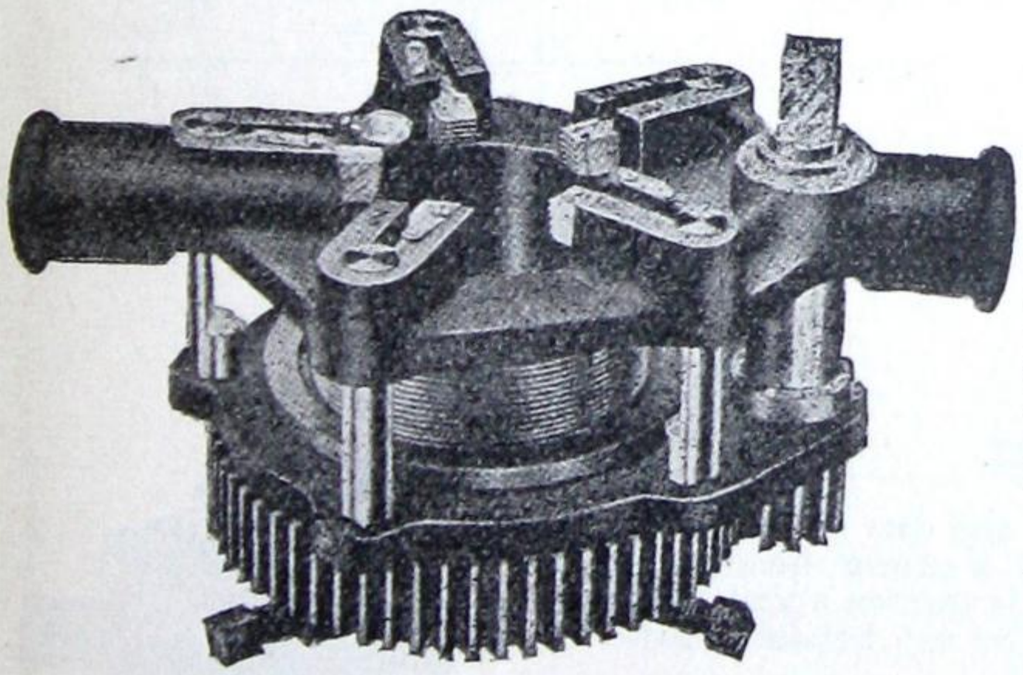


Fig. G2028.

Number	2	2½	3	4
Capacity Pipe	2½ to 4	2½ to 6	4½ to 8	9, 10, 12
Weight, lbs	65	120	175	225
Sets Dies	4	7	5	3
Price with Right Dies	$102.00	$300.00	$306.00	$550.00
Extra Dies, per Set (5 pieces)	8.75	12.80	12.80	22.00

Geared and Ratchets supplied.

OSTER BULL-DOG DIE STOCKS.

Top View.



Fig. G2031.

The New Lever Controlled Setting Device provides instant and easy release of the dies without backing off.

One movement of the lever opens or closes the dies. Duplicate threads are made without resetting.

A self-locking chuck insures straight threads and does away with bushings and set screws.

Numbers marked "R" are equipped with Ratchet.

Nos. 105, 107, 107 R are made with 4 Handles in Body of Tool.

Bottom View.

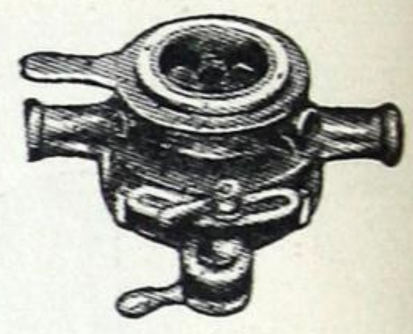


Fig. G2031.a

Number.....	101	102	102 R	103	103 R	104	104 R	104½	105	105 R	107	107 R
Sizes each Set Dies will Thread...	⅛ ¼ & ⅜ ½ & ¾	¼ & ⅜ ½ & ¾ 1 & 1¼	¼ & ⅜ ½ & ¾ 1 & 1¼	1 & 1¼ 1½ & 2	1 & 1¼ 1½ & 2	½ & ¾ 1 & 1¼ 1½ & 2	½ & ¾ 1 & 1¼ 1½ & 2	¼ & ⅜ ½ & ¾ 1 & 1¼ 1½ & 2	1½ & 2 2½ & 3	1½ & 2 2½ & 3	2½ & 3 3½ & 4	2½ & 3 3½ & 4 .....
Number Sets Dies.....	3	3	3	2	2	3	3	4	2	2	2	2
Price with Right Dies.....	$13.00	$17.00	$20.00	$22.00	$27.00	$25.00	$30.00	$28.00	$40.00	$50.00	$55.00	$60.00
Extra Dies per Set.....	1.50	1.75	1.75	2.00	2.00	2.00	2.00	2.00	3.00	3.00	3.50	3.50
Gross Weight..	11	20	24	27	32	29	35	30	62	70	94	138
Net Weight....	6¼	11	14	17	22	17	23	17	44	55	74	110

Gross weight is Shipping weight and Net weight is actual weight of stock while in use.

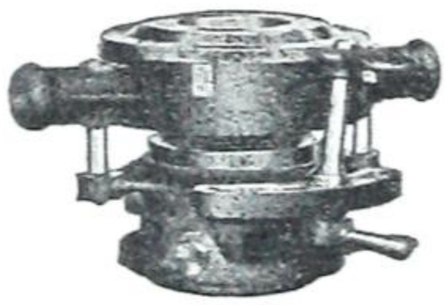


Fig. G2032.

MATCHLESS EASY CUTTING DIE STOCK.

The dies are narrow and recede by means of the tapered post, which can be moved in the slot to thread from 1″ to 2″ pipe with one set of dies. The guides are adjustable for all sizes.

The patented chip shield keeps the leader screw clean, and causes this part of the stock to wear as long as the other parts.

NUMBER.	Cuts Pipe.	Set of Dies.	Price.	Extra Dies Per Set.	Shipping Weight.
1-B.....	¼″ to ¾″	2	$16.00	1.50	11 lbs.
3-B.....	1″ to 2″	1	30.00	2.00	25 "
3 B.R. (Ratchet).....	1″ to 2″	1	35.00	2.00	36 "
4 B.R. (Ratchet).....	2½″ to 4″	2	80.00	5.00	120 "

BULL-DOG DIE STOCK No. 82.

This tool has brand new features. The double end dies (¼″ and ⅜″ on one end—½″ and ¾″ on the other) are protected by a casing; hence teeth cannot cut user's hands or be damaged when stock is thrown about. The dies have a stop on each side so that they cannot be set beyond proper place in stock.

List Price cutting ¼″, ⅜″, ½″, ¾″..... $13.00
List Price extra dies, right or left, per set (4 pieces), 4 sizes of pipe 3.00
Extra for ⅛″ dies—list..... 2.00
Net Weight 6 lbs., Shipping Weight 10 lbs.

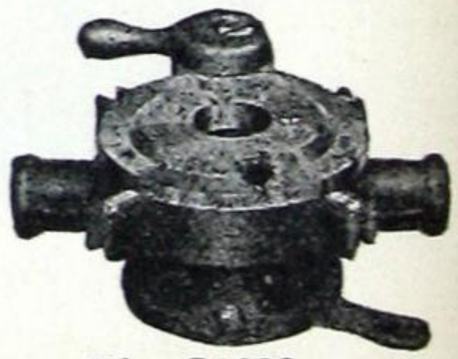


Fig. G2033.

OSTER GEARED DIE STOCKS.

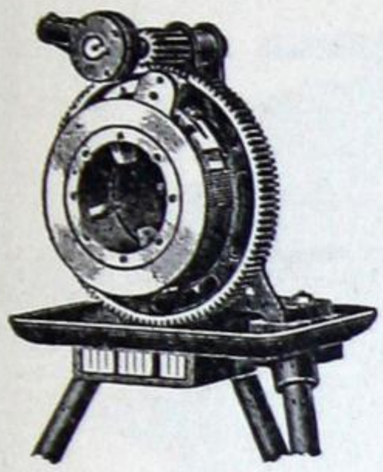


Fig. G2036.

These are Portable Pipe Tools, low in price, simple in construction and easy of operation. They can be used as Die Stocks, as Bench Tools or complete with tripod stand.

	No. 16.	No. 17.
Threads Pipe	2½" to 4"	2½" to 6"
With Bench Bracket	$110.00	$185.00
Complete with Tripod	125.00	200.00
Extra Dies, per set of 4 pieces	4.00	5.00
Shipping Weight:		
Complete with Tripod	370 lbs.	530 lbs.
" with Bench Bracket	290 lbs.	430 lbs.

Belt Driven.

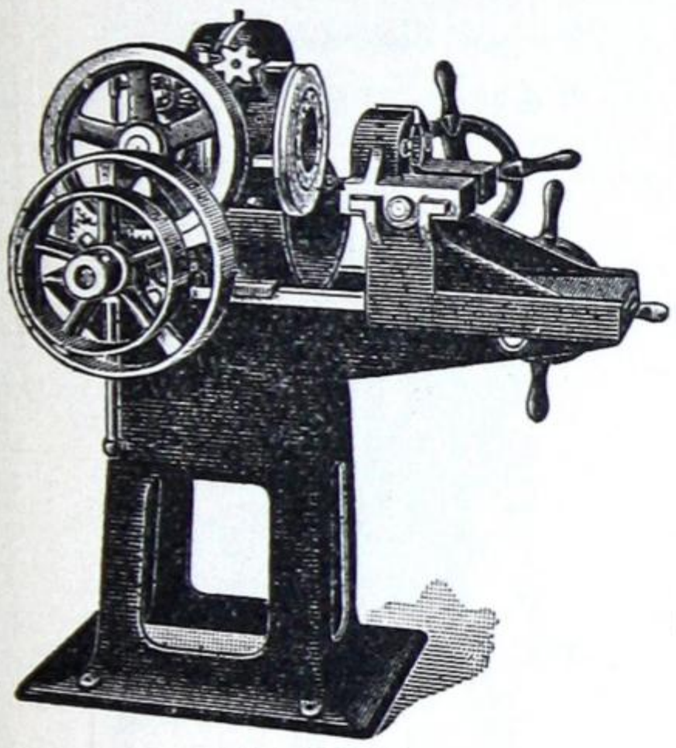


Fig. G2037.

OSTER PIPE AND NIPPLE MACHINES.

Oster Nipple Jaws.



Fig. G2038.

These machines are designed for shop use; for rapid threading of pipe and nipples and are provided with automatic cut-off.

The Oster Patent Lever Controlled Die Head provides instant and easy release of dies. One movement of the lever opens or closes the dies.

The Vise will hold the work in the centre of the dies. The jaws open and the pipe can be dropped into them from the top.

The Nipple Jaws are attached to the Vise Jaws and expand with them by means of the hand wheel.

They will hold to thread nipples except the largest size within the range of the machine. One set will hold one size nipple only, and consists of two pieces.

	DIMENSIONS. Inches.			Floor Space Base.	WEIGHT.		PULLEYS.				
							Cone.			Countershaft.	
	Height.	Length.	Width.		Gross.	Net.	No.	Steps.	Belt.	Dia.	Belt.
No. 300 A	45	36	28½	22 x 19	1000	800	2	8" & 12"	2½"	12"	3"
" 304 A	47	43	35	24 x 20	1625	1400	2	10" & 14"	3"	14"	3½"
" 306 A	51	54	46	30 x 25	2400	2000	3	8", 12", 16"	3½"	16"	4"

	Countershaft Speed, Rev. per Min.	Horse Power to Drive.	Cuts and Threads, Pipe.	Complete	Extra Dies Right or Left (2 Sizes.)	Nipple Jaws, per set.
No. 300 A	140	¾	¼" to 2"	$200.00	$3.00	$7.50
" 304 A	150	1½	1" to 4"	300.00	4.00	7.50
" 306 A	120	1¾	1¼" to 6"	425.00	5.00	10.00

Machines complete with countershafts, oil pump and automatic cut-off.
Machines up to 8" can be supplied. Belt Driven or Motor Driven. Prices on application.

OSTER HAND MACHINES.

No. 201.

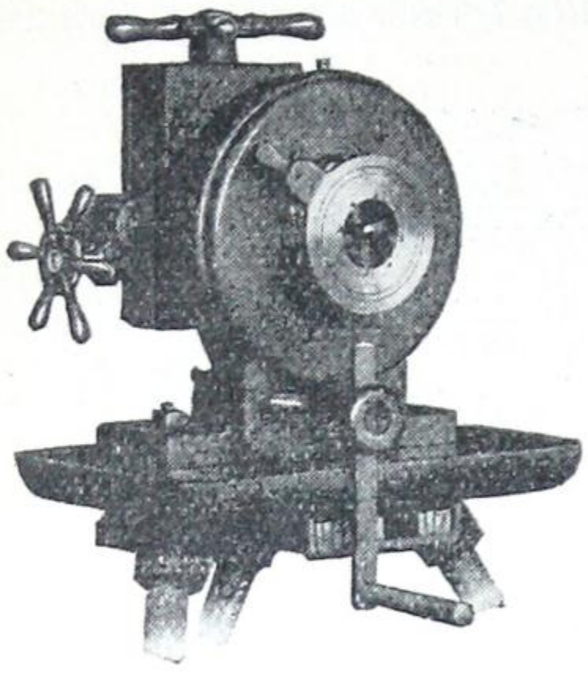


Fig. G2039.a



Fig. G2039.b

Nos. 204 and 206.

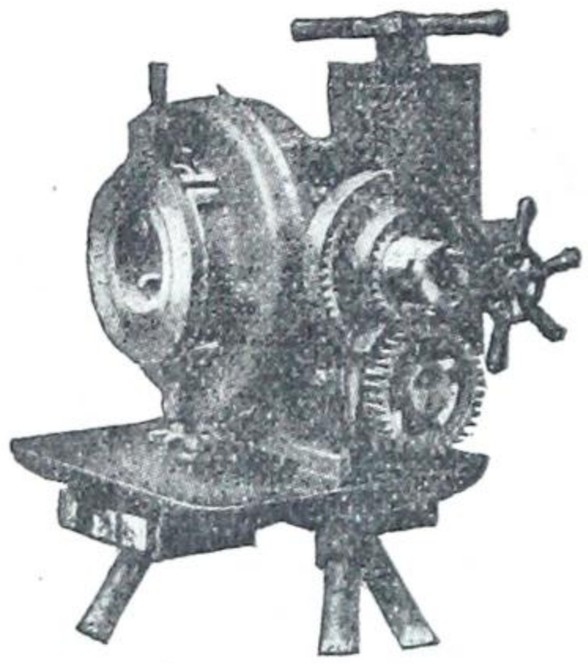


Fig. G2040.a

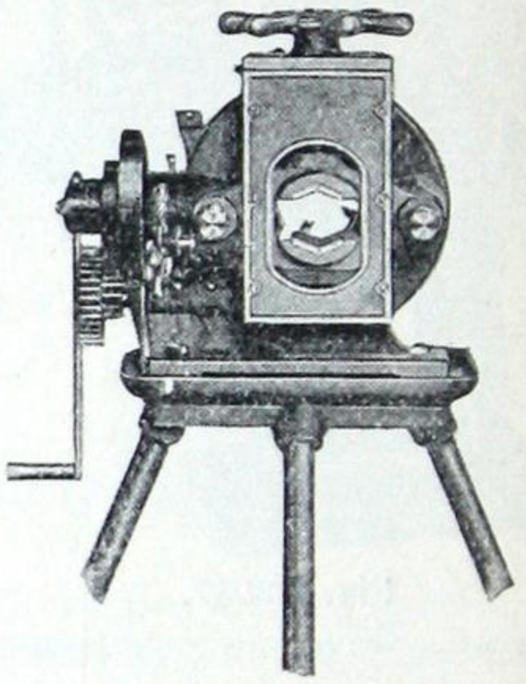


Fig. G2040.b

NUMBER OF MACHINE.....	201	204	206
Threads Pipe.....	¼″ to 2″	1″ to 4″	1″ to 6″
Machine Complete with R.H. Dies, Tripod and Pan...	$70.00	$150.00	$250.00
Sets of Dies.....	4	4	6
Extra Dies R. or L. Hand.....Per Set (4 pieces)	3.00	4.00	5.00
If without Tripod Stand.....deduct	7.00	10.00	25.00
If without Oil Pan.....deduct	3.00	4.00	6.00
If with Oil Reservoir.....add	3.00	....	....
Extra Cut-off Blades.....each	....	.75	.75
Net Weight of Machine only.....lbs.	200	480	720
Net Weight of Tripod Stand.....lbs.	40	45	60

Note.—Gross Weight Packages for shipment are about 50% more than net weight.

These machines are equipped with Lever Opening, Die Head, and Self-Centering Pipe Vise.

They are Double Geared and can be operated with the least possible labor consistent with rapid work.

One speed for small sizes or the first threads of larger pipe. The other speed for the larger sizes. Change can be made quickly while cutting a thread without removing the crank or any part, no wrench or other tool being necessary.

Nos. 204 and 206 have Automatic Cut-off attachment, but No. 201 Machine is made without cutting-off attachment. The following sets of Dies cut two sizes (¼ and ⅜), (½ and ¾), (1 and 1¼), (1½ and 2), (2½ and 3), (3½ and 4), and 5″ and 6″ cutting one size.

PREMIER DIE STOCK.

Threads 1″ to 2″ Iron Pipe.

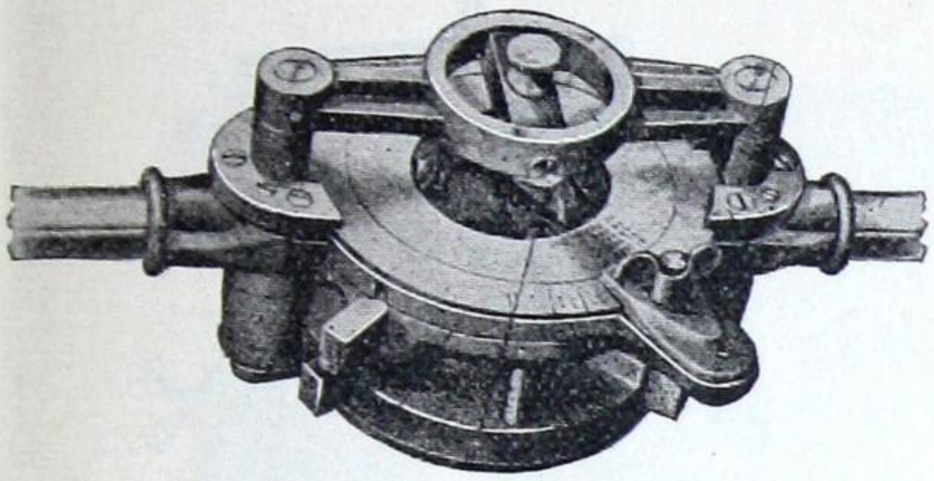


Fig. G2041.

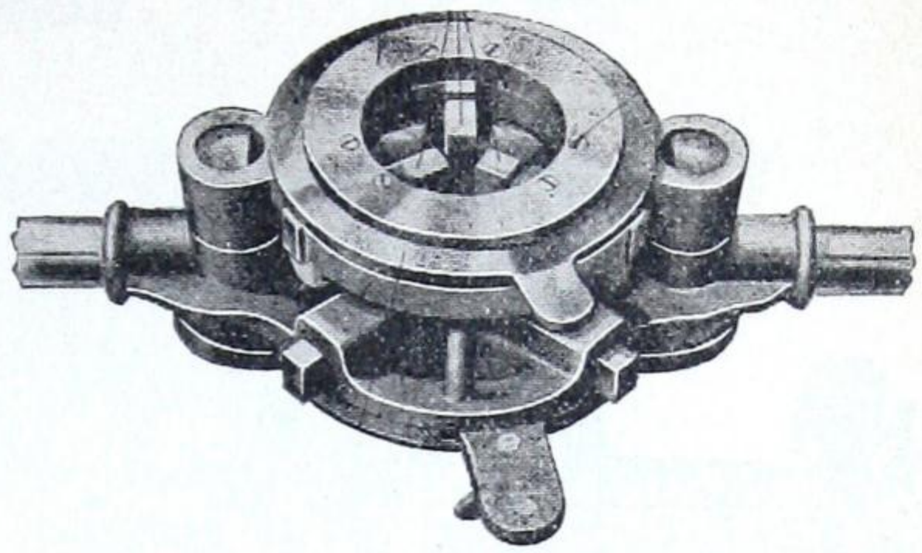


Fig. G2042.

Automatically throws itself out after a standard thread is cut.
Narrow Receding Dies—No Leader Screw.

No. 2—1″ to 2″, Right and Left	$46.00	Extra Dies, Right and Left	$10.00
1″ to 2″, Left only	40.00	" " Left only	6.00
1″ to 2″, Right only	40.00	" " Right only	6.00

BEAVER DIE STOCKS.

No. 41.

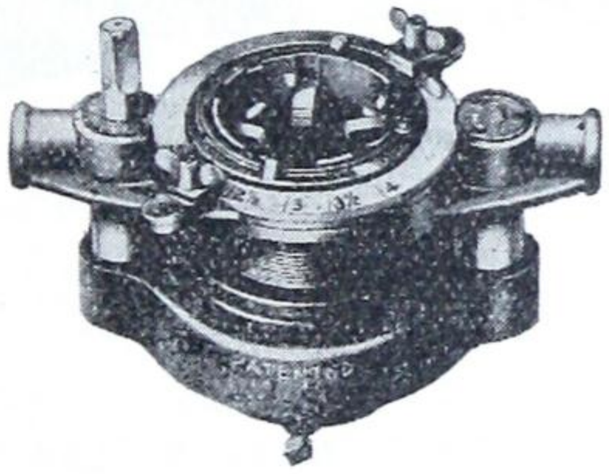
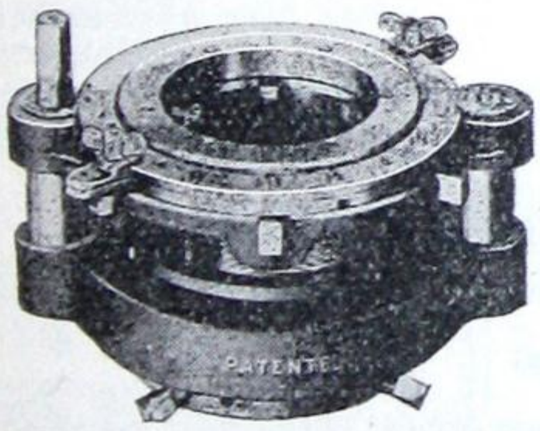
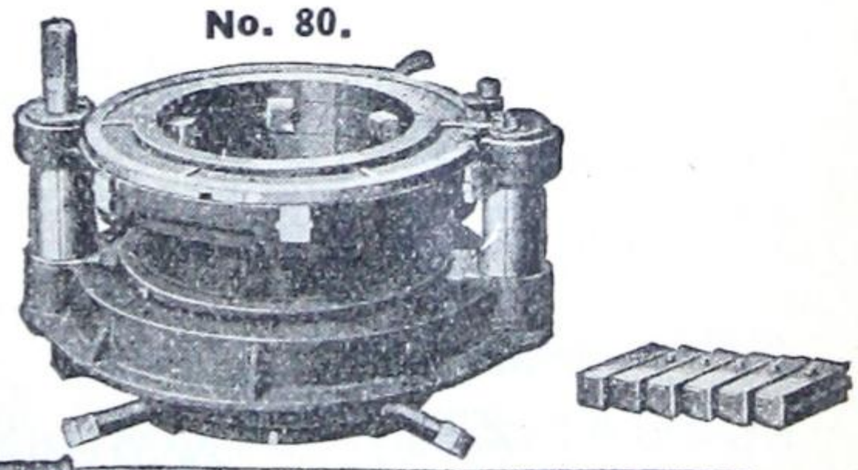


Fig. G2046.

No. 60.



No. 80.



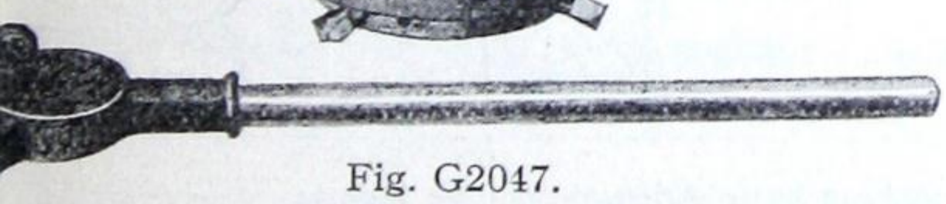


Fig. G2047.

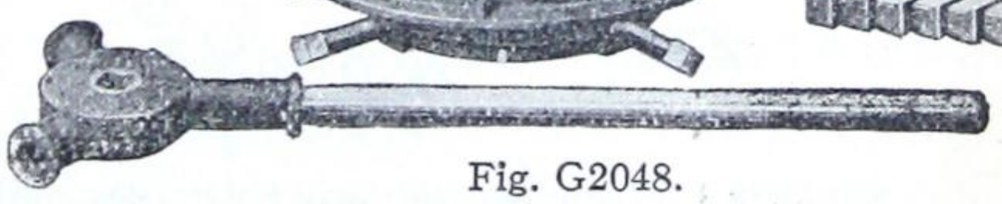


Fig. G2048.

No.	Threads Pipe.	Number of Sets.	PRICE. Machine with Right Dies.	PRICE. Extra Dies per set.
41	2½″ to 4″	1—All Sizes	$150.00	$14.00
60	2½″ to 6″	1—2½″ to 3½″; 1—4″ to 6″	300.00	24.00
80	4½″ to 8″	1—4½″ to 6″; 1—7″ and 8″	380.00	30.00

SAUNDERS PIPE MACHINES.

No. 4 B.

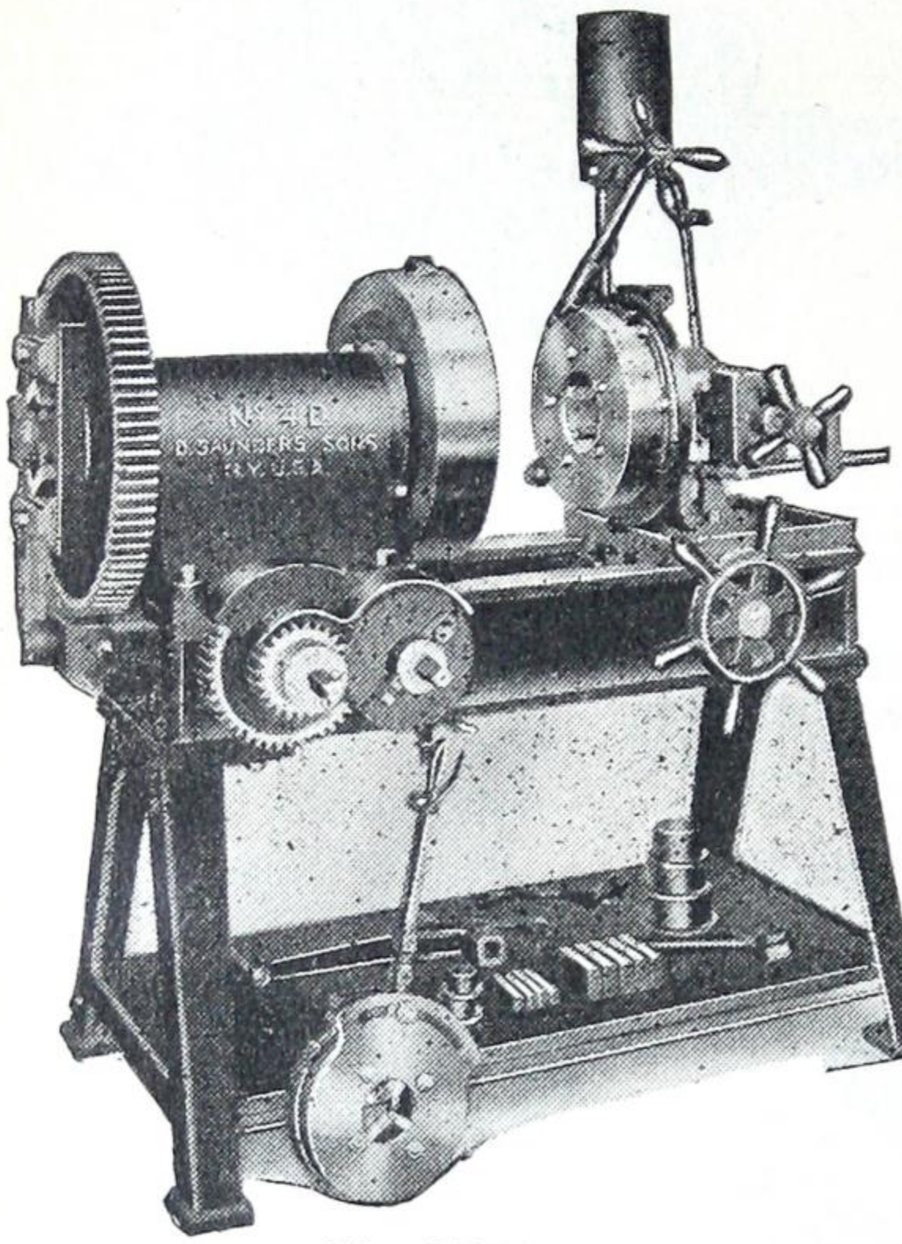


Fig. G2051.

No. 5 D.

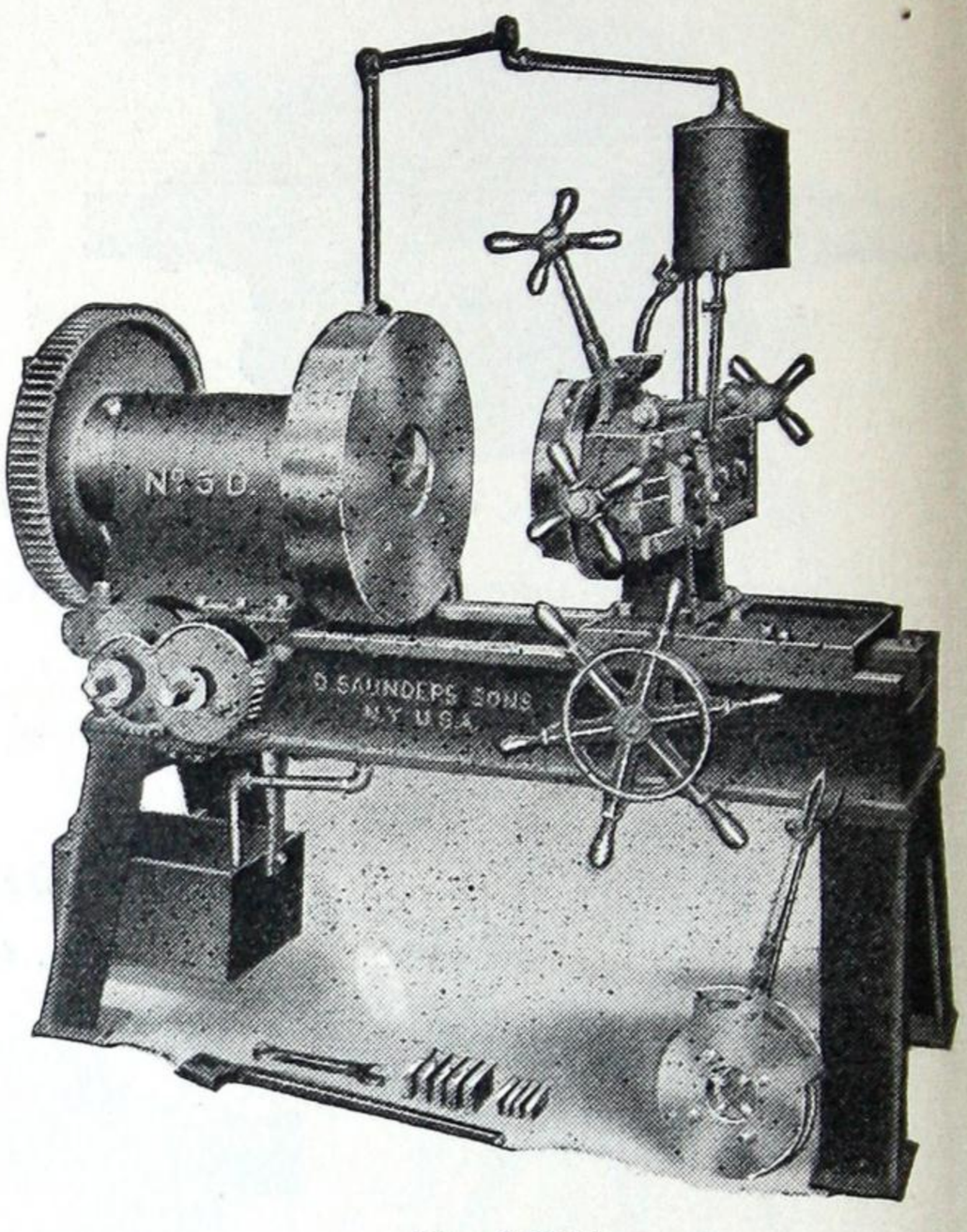


Fig. G2052.

Number	Floor Space, Inches.	Capacity	Hand.		Power.		EXTRA DIE CHASERS.			
			Weight.	Price.	Weight.	Price.	No. Sets.	Size Pipe.	Per Set. Number Chasers	Per Set. Price.
1 XL.....	24 x 36	¼″ to 2″	475	$90.00	675	$110.00	.....	.....	.....	.....
1 XL Special	30 x 42	¼″ to 2″	500	165.00	700	190.00	4	¼″ to 2″	4	$6.00
1 Solid.....	34 x 36	¼″ to 2″	550	120.00	700	155.00	.....	.....	.....	.....
1 Adjustable	34 x 36	¼″ to 2″	600	170.00	750	205.00	4	¼″ to 2″	4	6.00
3 "	66 x 36	½″ to 3″	.....	.....	2400	500.00	3	½″ to 2″	4	6.00
							1	2½″ to 3″	5	14.00
4 B "	54 x 36	½″ to 4″	1400	320.00	1900	405.00	3	½″ to 2″	4	6.00
							2	2½″ to 4″	5	14.00
5 D "	72 x 48	1″ to 6″	.....	.....	2800	725.00	2	1″ to 2″	4	6.00
							4	2½″ to 6″	6	20.00

Numbers 1 XL and 1 Solid have Solid Dies. All others have Adjustable Die Heads.

All Power Machines are also Hand Machines.

Nos. 3, 4 B and 5 D have two Die Heads.

Nos. 3 and 4 B can be supplied with Lever Gripping Chuck.

Machines to Cut up to 8″, 10″, 12″ and 18″ pipe. Belt or Electric Drivers. (Information and Prices on application.)

ROBERTSON'S BRASS TUBE STOCK AND DIES.

FINE THREAD.

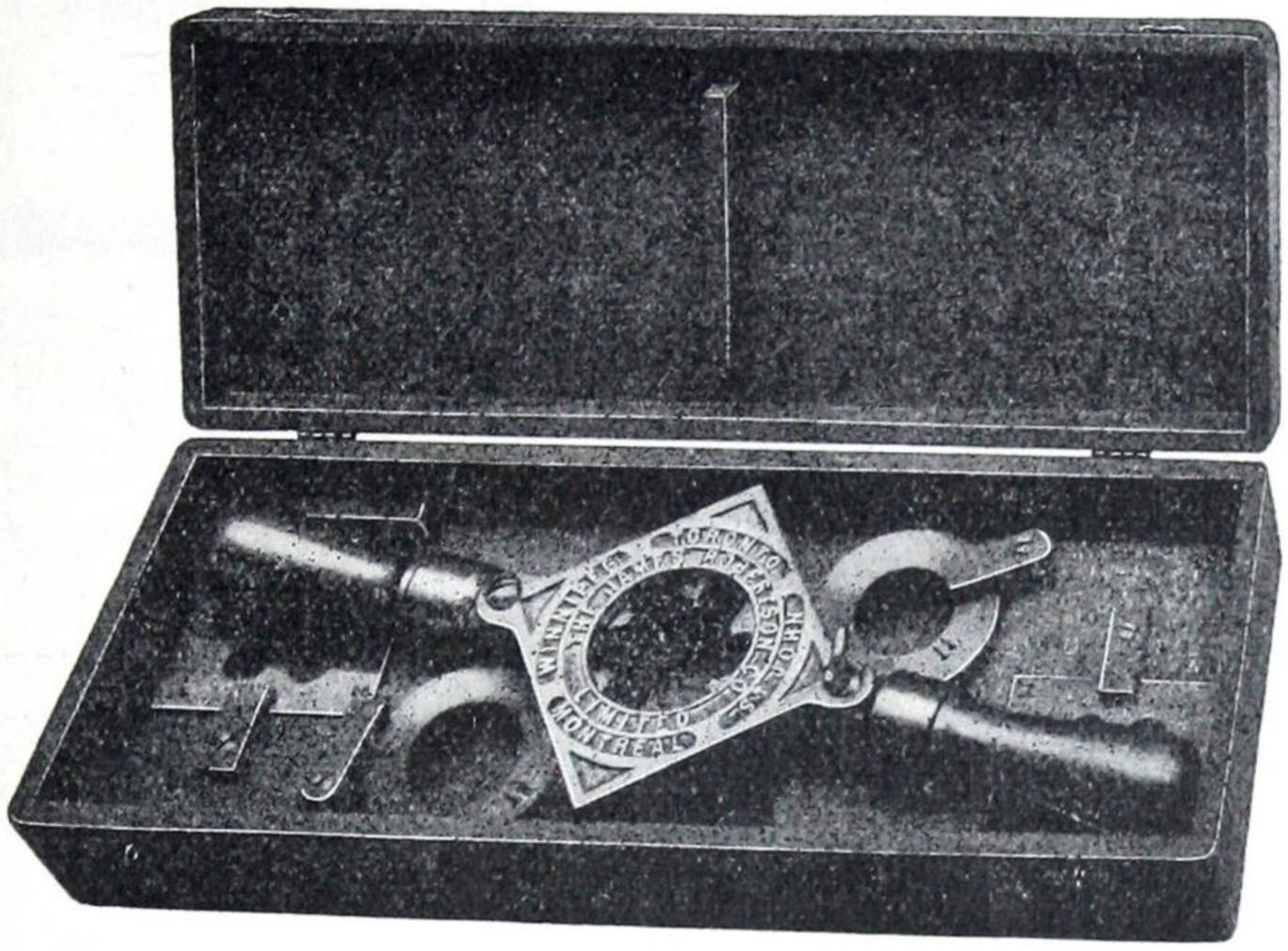


Fig. G2055.

Complete with Stock, Guides and Dies for 1¼″, 1⅜″ and 1½″ Right Hand		$16.00
Extra Dies	Each	2.80
" Guides	"	.90
" Stocks	"	5.00

MULTIPLE WHEEL PIPE CUTTERS.

FOR CAST IRON PIPE.

Nos. 204 and 206.



Fig. G2056.

Nos. 212 and 214.



Fig. G2057.

NUMBER	204	206	212	214
Cuts Pipe	2″ to 6″	2″ to 8″	5″ to 8″	5″ to 13″
Price, Each	$28.00	$35.00	$38.00	$47.00

PIPE CUTTERS.

SAUNDERS.



Fig. G2061.

Number.....	1	2	3	4	5
Cuts Pipe...	⅛ to 1	1 to 2	2 to 3	2½ to 4	4 to 6
Complete, Ea.	$3.00	4.50	11.00	18.00	28.00
Block&Wheel	1.25	1.75	2.75	3.50	4.00
Wheel.....	.24	.32	.60	.60	.60
Rollers.....	.24	.32	.50	.50	.60
Pins.....	.10	.10	.15	.15	.15

BARNES.

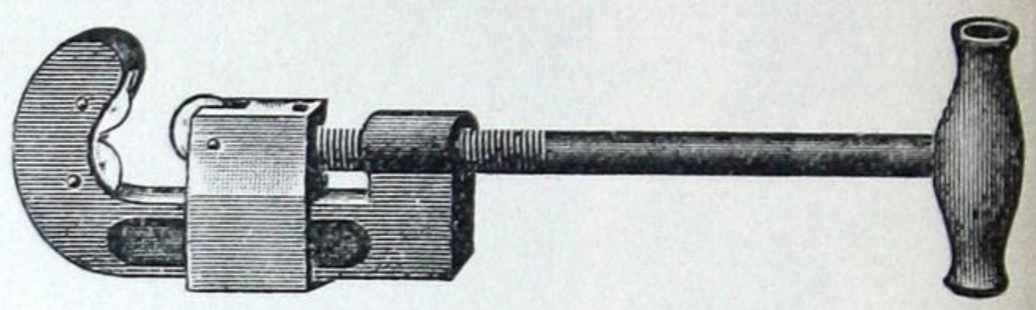


Fig. G2062.

Number....	1	2	3	4	5	6
Cuts Pipe..	⅛ to 1	½ to 2	1½ to 3	2½ to 4	4 to 6	6 to 8
Complete, Ea	$4.50	6.00	10.00	20.00	30.00	40.00
Wheels... "	.25	.30	.40	.50	.75	.75
Pins..... "	.10	.10	.10	.20	.20	.20

TRIMO.



Fig. G2063.

Number.....	1	2	3
Cuts Pipe.....	⅛ to 1¼	½ to 2	1¼ to 3
Complete.....Ea.	$4.50	$6.00	$10.00
Nuts..... "	.35	.35	.40
Wheels..... "	.30	.30	.40
Rollers..... "	.30	.30	.40
Pins..... "	.10	.10	.10
An.-Fric. Washers"	.05	.05	.05
Fork Block Carriers"	.10	.10	.10
Blocks..... "	1.25	1.25	2.25
Frames..... "	2.25	2.50	3.25
Handle Screws.. "	1.00	1.25	2.00
Handles..... "	.35	.35	.35

HOLLANDS.

Roller or 3 Wheel.

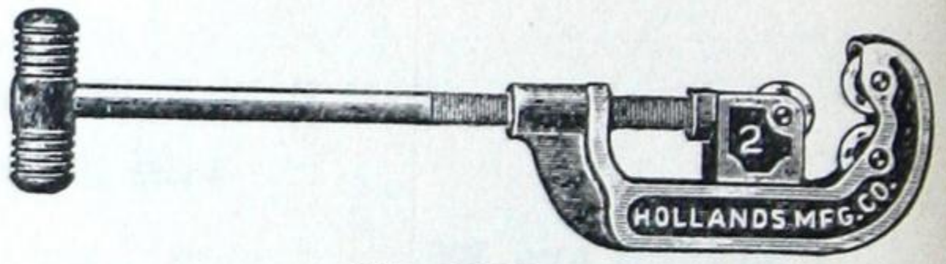


Fig. G2064.

Number.....	1	2	3	4	5
Cuts Pipe.....	⅛ to 1¼	½ to 2	1 to 3½	1 to 4	4 to 6
Roller Cutter....Ea.	$4.50	$6.00	$11.00	$18.00	$28.00
3 Wheel Cutter... "	4.50	6.00	11.00	18.00	28.00
Frame..... "	2.00	2.50	3.50	8.00	10.00
Blocks..... "	1.50	2.00	3.00	5.00	8.00
Handle Screws... "	1.25	1.75	3.00	4.00	8.00
Wheels..... "	.25	.32	.60	.60	.60
Rollers..... "	.25	.32	.50	.50	.50
Pins..... "	.10	.10	.15	.15	.15

SAUNDERS TOOL CUTTER.

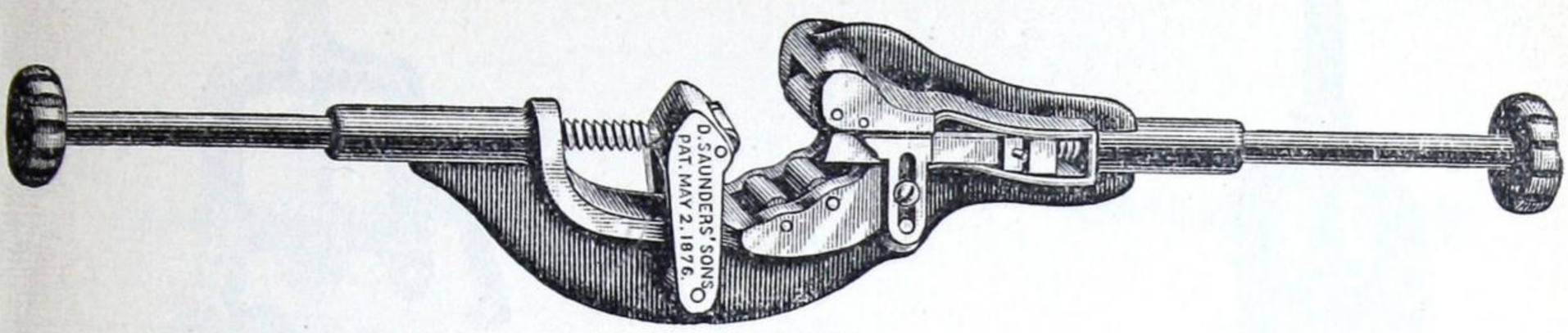


Fig. G2067.

The Roller on Swinging Block has small V near end which prevents tool from moving endwise. Cuts tubes or pipe without leaving Burr inside or out; is suitable for Solid Rod, Boiler Tube or thinnest Brass or Copper Tube.

No.	Cuts Pipe.	PRICE. Complete.	Plain Roller.	Bead Roller.	Pins.	Blocks and Rollers.	Cutter Tools.
1	⅛ to 1	$ 6.50	.24	.40	.10	$1.25	.18
2	1 to 2	8.00	.32	.60	.12	1.75	.25
3	2 to 3	16.00	.50	1.00	.15	3.25	.35
4	2½ to 4	25.00	.75	1.25	.15	4.25	.45

BEAVER PIPE CUTTER.

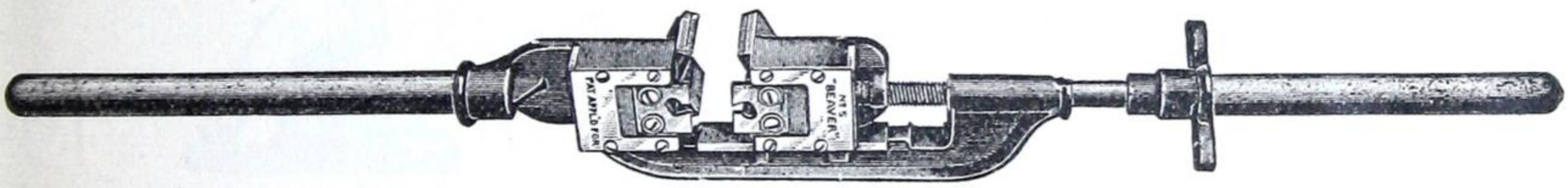


Fig. G2068.

It is not strained by feeding too fast because you do not feed it—simply close it up on the pipe, the feed is automatic—pull, two handles, same as a Die Stock. The form of the knives regulates the depth of the cut. These are the features which make the "Beaver" Knife Cutter a successful, practical tool.

	Cuts Pipe.	Price.	Extra Cutters per Set.
No. 1	⅛" to 1"	$25.00	$1.80
No. 5	½" to 2"	28.00	2.20

LEAD PIPE CUTTER.

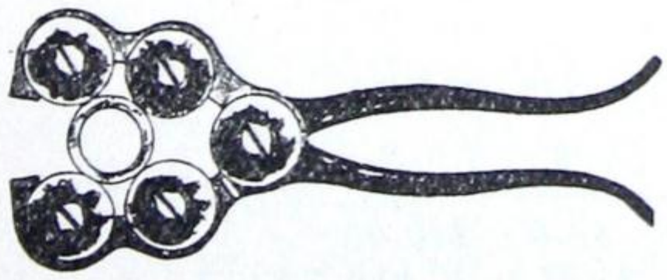


Fig. G2070.

Price, Japanned, Each $2.00

7 lb. All Steel.



Fig. G2071.
Holds ⅛ to 2″ Pipe.
Each.....$3.50

PIPE VISES.

Roller-Hinged, with Latch.

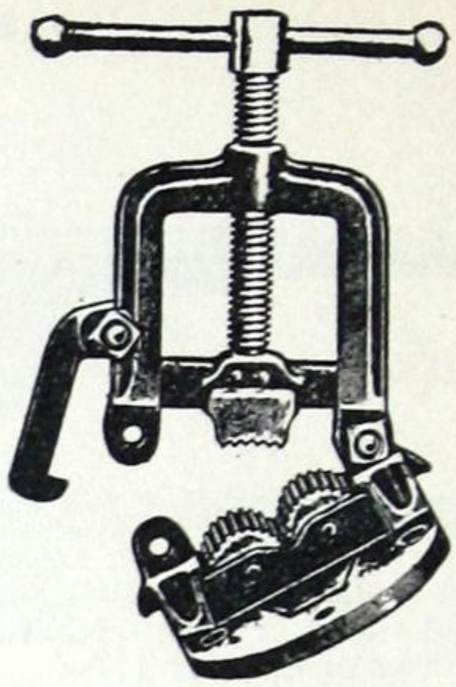


Fig. G2073.

No.....	R	RR	S	T
Holds Pipe	⅛ to 2½	¼ to 3	¾ to 4	2 to 6
Price:				
With latch	$4.30	$7.50	$10.75	.....
No "	4.00	7.00	10.00	20.00

JARECKI.

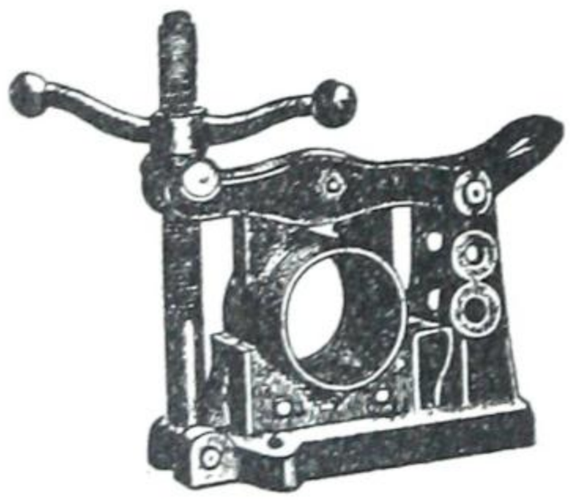


Fig. G2074.

No.....	1	2	3	4
Holds Pipe.	⅛ to 2	⅛ to 4	1½ to 6	6 to 12
Price, each.	$12.00	16.00	24.00	60.00

VULCAN CHAIN.



Fig. G2077.

NUMBER.....	1	2	4
Price.....Each	$3.50	$7.50	$18.00
Capacity Pipe Fittings.....	⅛" to 2"	¼" to 4"	¾" to 8"
Extra Jaws per pair.....	$1.50	$3.50	$9.00
" Chain, with Screw...	1.25	2.40	6.00
" Screw.....	.40	.70	1.25
Handle & Nut.....	1.10	2.10	3.50
Nut.....	.70	1.35	2.00

KLINGFAST.

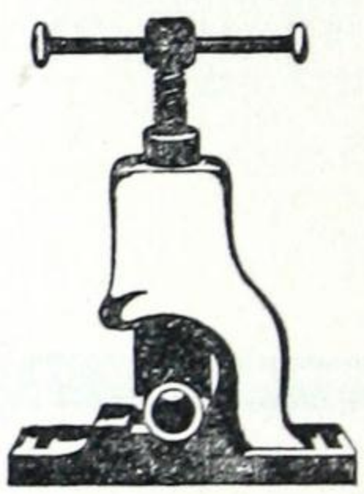


Fig. G2076.

No.....	1	2
Holds Pipe.	⅛ to 1½	½ to 2
Price, each..	$3.00	5.00

REEDS FOR N.P. PIPE.

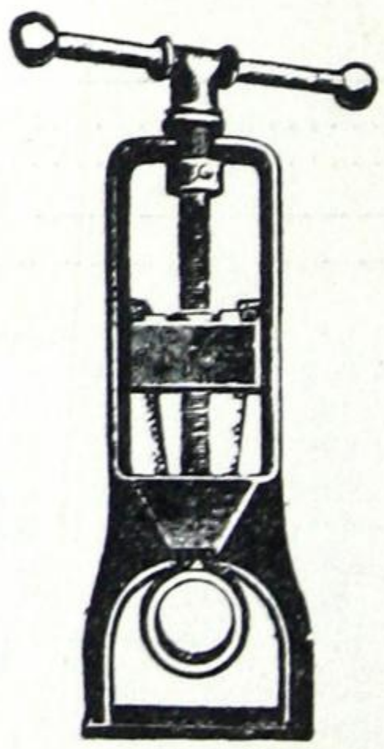


Fig. G2079.

Price, each..... $5.00
Holds Pipe ⅛" to 2".

PIPE VISES.

MALLEABLE IRON HINGED.

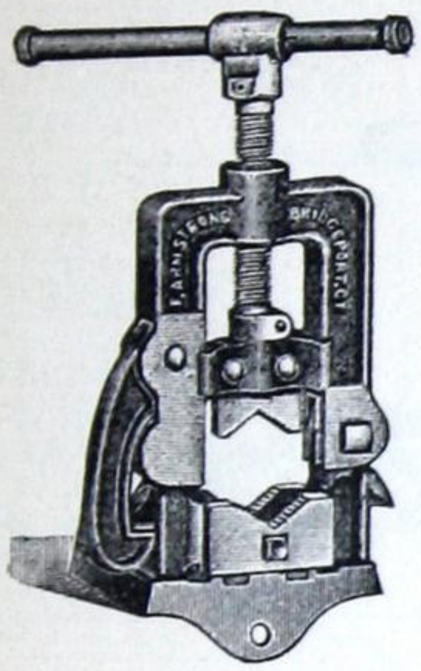


Fig. G2075.

No.	Holds Pipe	Weight, Lbs.	Price, Each.
0	⅛″ to 2½″	11	$4.50
1	⅛″ to 2½″	16	5.75
2	½″ to 4″	30	12.00
3	1″ to 6″	35	20.00

REED SELF-LOCKING.

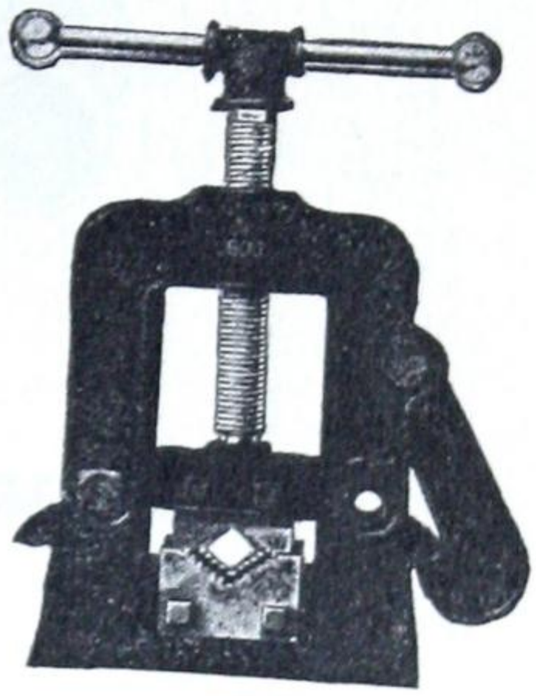


Fig. G2082.

No.	Holds Pipe	Weight, Lbs.	Price, Each.
71	⅛″ to 2½″	11	$4.50
72	⅛″ to 3½″	14	6.00
73	⅛″ to 4½″	20	9.00
64	⅛″ to 6″	48	25.00

No. 64 is Extra Heavy and is especially made for heavy duty.

COMBINATION.

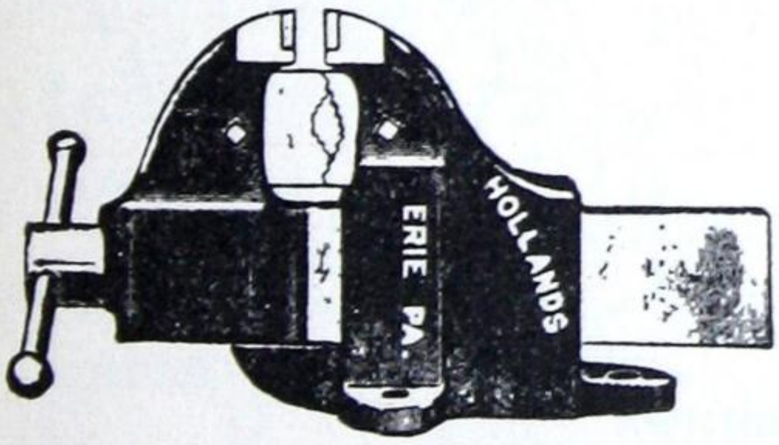


Fig. G2083.

No	102	104	112
Width of Jaw	3½	4	5
Holds Pipe	⅛ to 2″	⅛″ to 3″	½″ to 4″
Stationary Base...Each	.....	.....	$28.00
Swivel Base..... "	$16.00	$20.00	30.00

UNIVERSAL PIPE BENDER.



Fig. G2085.

For Pipe ¼″ to 2″.

Each..... $5.00

CHAIN WRENCHES.

VULCAN BIJAW PIPE WRENCH.

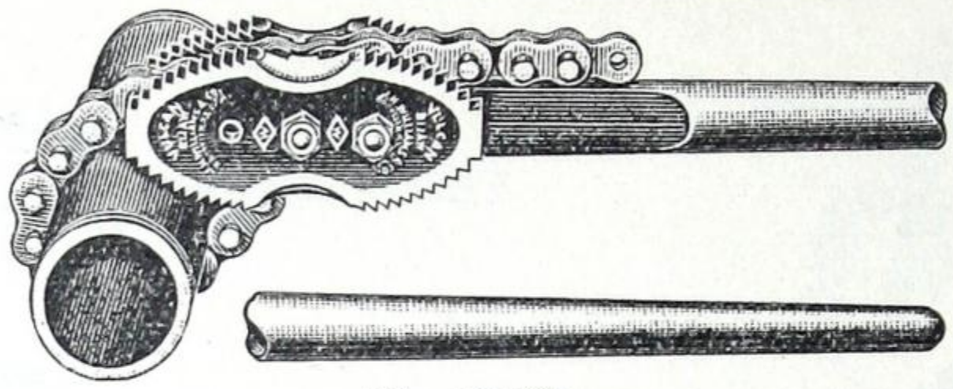


Fig. G2091.

VULCAN PIPE WRENCH.

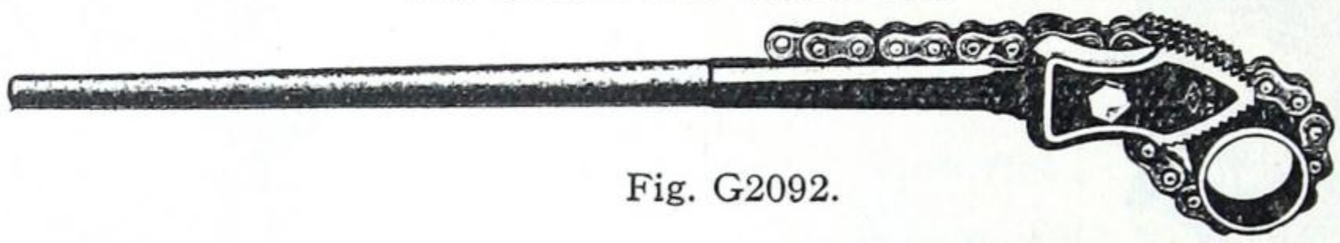


Fig. G2092.

AGRIPPA FITTING WRENCH.



Fig. G2093.

PRICE LIST. VULCAN BIJAW AND VULCAN.
(Flat Link Chain)

Size {Vulcan / Vulcan Bijaw	No. 10. / No. 30.	No. 11. / No. 31.	No. 12. / No. 32.	No. 13. / No. 33.	No. 13½. / No. 33½.	No. 14. / No. 34.	No. 15. / No. 35.	No. 16. / .....
Price, each	$2.50	$3.50	$5.00	$7.00	$9.00	$11.00	$18.00	$40.00
Capacity Pipe	⅛" to ¾"	⅛" to 1½"	¼" to 2½"	¾" to 4"	1" to 6"	1½" to 8"	2" to 12"	4" to 18"
Length over all	13¾"	20"	27"	37"	44½"	50½"	64½"	87"
Weight, pounds	2⅜	5¾	10	16	24	31	50	137
Extra Jaws, per pair	$1.00	$1.75	$2.75	$4.00	$4.75	$5.50	$7.50	$16.00
" Nuts and Studs for Jaws, per Set	.20	.25	.35	.45	.70	.70	.90	1.30
" Chains, Each	.75	1.00	1.50	2.50	3.50	4.50	7.50	20.00
Length, Chain, inches	9½	13½	17½	22½	31	39	54½	74½
Breaking Strain of Chain	3600 lbs.	6700 lbs.	9800 lbs.	12500 lbs	14300 lbs	15700 lbs	21600 lbs	40000 lbs

PRICE LIST, AGRIPPA.

Size	No. 20.	No. 21.	No. 22.	No. 23.	No. 23½	No. 24.	No. 25.
Price, each	$2.50	$3.50	$5.00	$7.00	$9.00	$11.00	$18.00
Capacity, pipe fittings	⅛" to ¾"	⅛" to 1½"	¼" to 2½"	¾" to 4"	1" to 6"	1½" to 8"	2" to 12"
Length over all	13¾"	20"	27"	37"	44½"	50½"	64½"
Weight, about	2½ lbs.	5¾ lbs.	9¾ lbs.	17 lbs.	24 lbs.	32 lbs.	56 lbs.
Extra Jaws, each	$1.00	$1.75	$2.75	$4.00	$4.75	$5.50	$7.50
Extra Chains, each	$1.00	$1.25	$1.75	$2.75	$4.00	$5.00	$8.00
Length, chain	10"	15"	19½"	26"	34"	45"	61"
Breaking Strain of Chain	3600 lbs.	6700 lbs.	9800 lbs.	12500 lbs	14300 lbs	15700 lbs	21800 lbs

STILLSON WRENCHES.

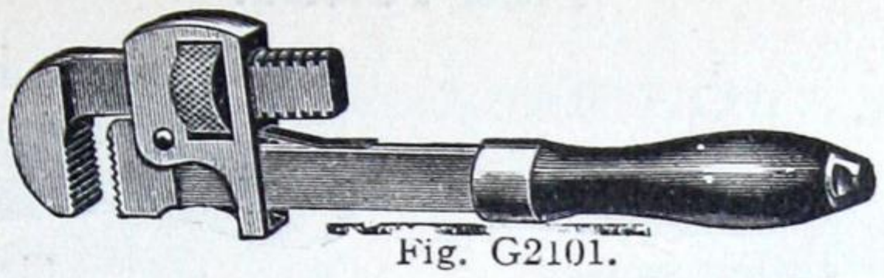


Fig. G2101.

Length, open.....Inches	6	8	10	14	18	24	36	48
Takes Pipe..... "	$\frac{1}{8}$ to $\frac{1}{2}$"	$\frac{1}{8}$ to $\frac{3}{4}$"	$\frac{1}{8}$ to 1"	$\frac{1}{4}$ to $1\frac{1}{2}$"	$\frac{1}{4}$ to 2"	$\frac{1}{4}$ to $2\frac{1}{2}$"	$\frac{1}{4}$ to $3\frac{1}{2}$"	1 to 5"
Price..... Each	$2.00	$2.25	$2.50	$3.50	$5.00	$7.25	$13.50	$20.00
Extra Jaws..... "	.75	.80	.85	1.15	1.75	2.25	4.35	7.50
" Frames..... "	.38	.42	.50	.60	.75	.95	1.70	2.20
" Adjusting Nuts. "	.12	.15	.20	.30	.35	.55	1.10	1.50
" Frame Pins... "	.03	.03	.04	.04	.04	.04	.05	.05
" Spring Rivets. "	.01	.01	.02	.02	.02	.02	.02	.02
" Springs..... "	.10	.10	.10	.10	.10	.11	.13	.13
Number of Springs to each Wrench.....	1	1	3	3	3	3	1	1

TRIMO WRENCHES.

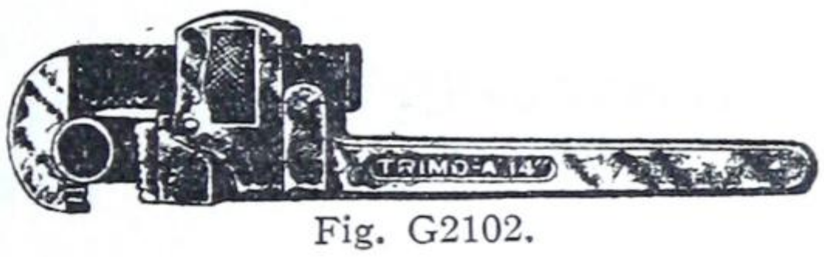


Fig. G2102.

Length, open..... Inches	6	8	10	14	18	24	36	48
Takes pipe..... "	$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{1}{8}$ to 1	$\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{1}{4}$ to 2	$\frac{1}{4}$ to $2\frac{1}{2}$	$\frac{1}{2}$ to $3\frac{1}{2}$	1 to 5
Price.....Each	$2.00	$2.25	$2.50	$3.50	$5.00	$7.25	$13.50	$20.00
Extra Movable Jaws. "	.75	.80	.85	1.15	1.75	2.25	4.35	7.50
" Nuts..... "	.12	.15	.20	.30	.35	.55	1.10	1.50
" Insert Jaws... "	.35	.40	.50	.60	.70	.80	1.10	2.00
" Frames..... "	.38	.42	.50	.60	.75	.95	1.70	2.20
" Springs..... "	.03	.03	.03	.03	.04	.04	.04	.04
" Frame Pins... "	.03	.03	.04	.04	.04	.04	.05	.05
" Jaw Pins..... "	.03	.03	.04	.04	.04	.04	.05	.05
" Nut Guards,per pair	.15	.15	.20	.30	.35	.45	.55	.65

ALLIGATOR WRENCHES.

No. 1.



Fig. G2106.

No. 2 to 5.

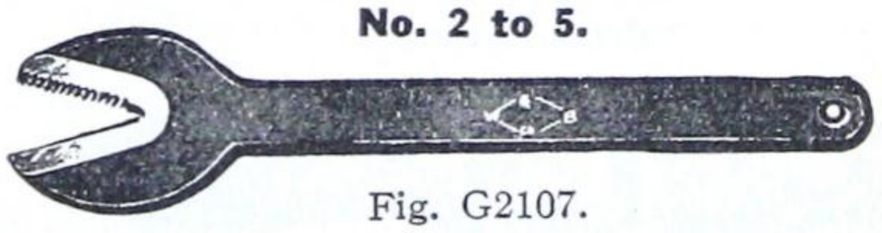


Fig. G2107.

Number.....	1	2	3	4	5
Length.....Inches	$5\frac{3}{4}$	9	16	22	27
Takes Pipe.....Inches	$\frac{1}{8}$ to $\frac{3}{8}$	$\frac{3}{8}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$1\frac{1}{4}$ to 2	2 to 3
Price.....Each	$ .35	$1.00	$2.00	$3.00	$5.00

PIPE TONGS.

COMMON.

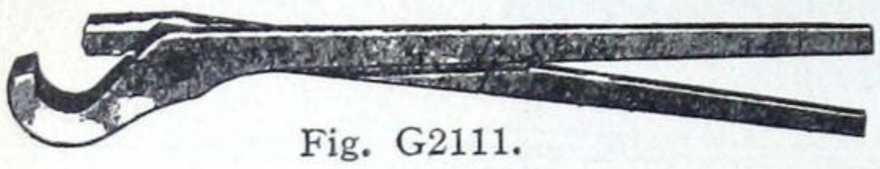


Fig. G2111.

Size Pipe, Inches	⅛	¼	⅜	½	¾	1
Price.....Each	$1.00	1.00	1.25	1.50	1.75	2.00

Size Pipe.....Inches	1¼	1½	2	2½	3
Price.....Each	$2.40	3.00	3.75	4.75	5.50

BROWN'S ADJUSTABLE.

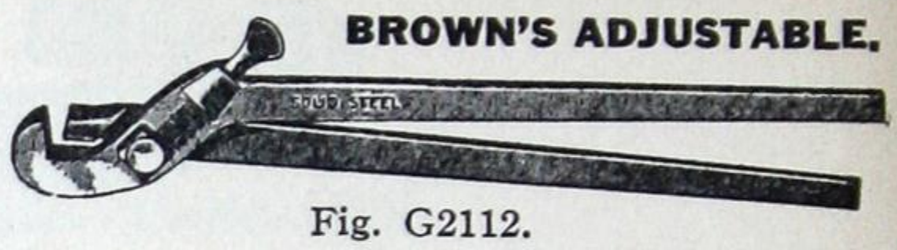


Fig. G2112.

Number.....	1	1½	2
Size Pipe.....	⅛ to ¾″	⅜ to 1″	½ to 1¼″
Price.....Each	$1.30	1.65	2.00

Number.....	3	4	5
Size Pipe.....	1 to 2″	1½ to 3″	2½ to 4″
Price.....Each	$3.00	6.00	11.00

8″ COCHRAN "SPEEDNUT" WRENCH.



Fig. G2113.

Jaw Opened, 1⅜″. Closed, ½″.

Price.....Each $2 .00

"WESTCOTT" WRENCHES.

For Pipe.



Fig. G2114.

6 inch takes pipe from ⅛ to ⅜ inch..	Each.	$ .60
8 inch takes pipe from ⅛ to ¾ inch..	"	.75
10 inch takes pipe from ⅛ to 1 inch..	"	1.00
12 inch takes pipe from ⅛ to 1¼ inch..	"	1.25
14 inch takes pipe from ⅛ to 1½ inch..	"	1.75

For Bolts and Nuts.

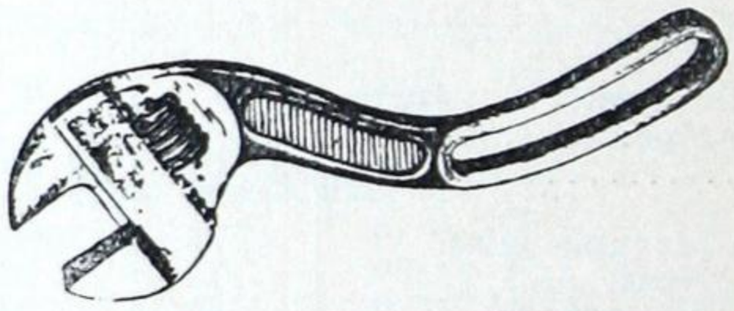


Fig. G2115.

6 inch opens to ¾ inch.....	Each	$ .60
8 inch opens to 1 inch.....	"	.75
10 inch opens to 1⅜ inch.....	"	1.00
12 inch opens to 1⅝ inch.....	"	1.25
14 inch opens to 2 inch.....	"	1.75

MONKEY WRENCH.
Knife Handle.



Fig. G2116.

Size.....Inches	6	8	10	12
Black, price..Per Doz.	$9.00	10.00	12.00	14.00

Size.....Inches	15	18	21
Black, price.....Per Doz.	$24.00	30.00	36.00

MONKEY WRENCH
Trimo.

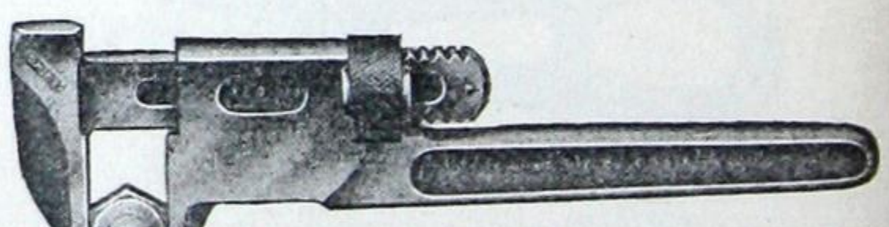


Fig. G2117.

Size.....Inches	6	8	10	12
Black, price..Per Doz.	$9.00	$10.00	12.00	14.00

Size.....Inches	15	18	21
Black, price.....Per Doz.	24.00	30.00	36.00

WALCO HEX. WRENCH.

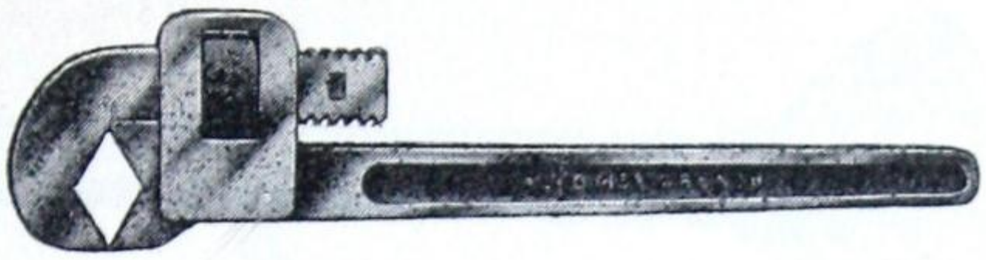


Fig. G2120.

SIZE	Size of Hex. Across Flats.	Length Open.	Length Closed.	Price, Each.
No. 0	$\frac{7}{16}$" to $1\frac{1}{16}$"	$8\frac{1}{4}$	$7\frac{1}{2}$	$ 1.75
" 1	$\frac{3}{4}$" to $1\frac{7}{16}$"	14	13	5.00
" 2	$1\frac{1}{3}$" to $2\frac{7}{8}$"	25	23	12.00

COMBINATION PLIERS.
Nickel-Plated.

6 inch.



Fig. G2121.

Price, Each..... $1.25

8 and 10 inch.



Fig. G2122.

	8"	10"
Price, Each.....	$1.50	$1.75

SIDE CUTTING PLIERS.



Fig. G2123.

Size.....	4	5	6	7
Each.....	$0.60	.75	.90	1.25

GAS PLIERS.

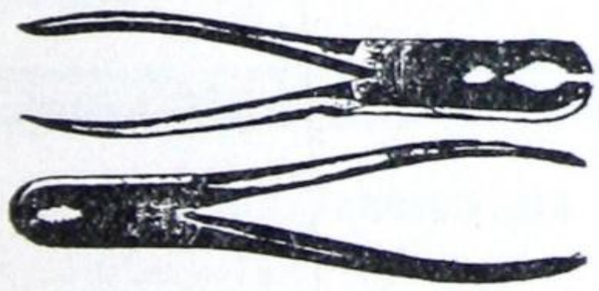


Fig. G2124.

Length.....	5	6	7	8	9	10	12	14
Price.....	$.50	.55	.65	.70	.80	.90	1.10	1.45

LEAD PIPE EXPANDING PLIERS.



Fig. G2125.

Length, 11". Each..... $2.50

PARMALEE WRENCHES.



Fig. G2126.

SIZE, NUMBER.....	1	2	3	4
Length.....	10″	20″	25″	—
Takes Pipe.....	⅜″ to 1″	1″ to 2″	2″ to 3″	3″ and 4″
Price Complete.....Per Set	$5.00	$7.50	$9.50	$13.00
" of Wrench without Girths.....Each	2.25	3.00	5.00	7.50

EXTRA GIRTHS.

NUMBER.....	1	2	2	3	4	4
Sizes.....	⅜″,½″,¾″,1″	1″ and 1¼″	1½″ and 2″	2″,2½″&3″	3″	4″
Each.....	$ .75	$1.00	$1.25	$1.50	$2.50	$3.00

These Wrenches are especially useful for Brass and Copper Pipe—Iron Pipe Size.

In making up polished or nickel-plated pipe the use of a thin sheet of paper is recommended.

BRASS TUBE WRENCH.

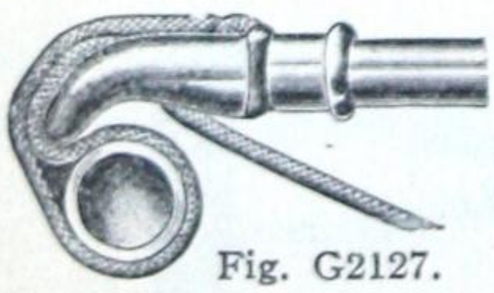


Fig. G2127.

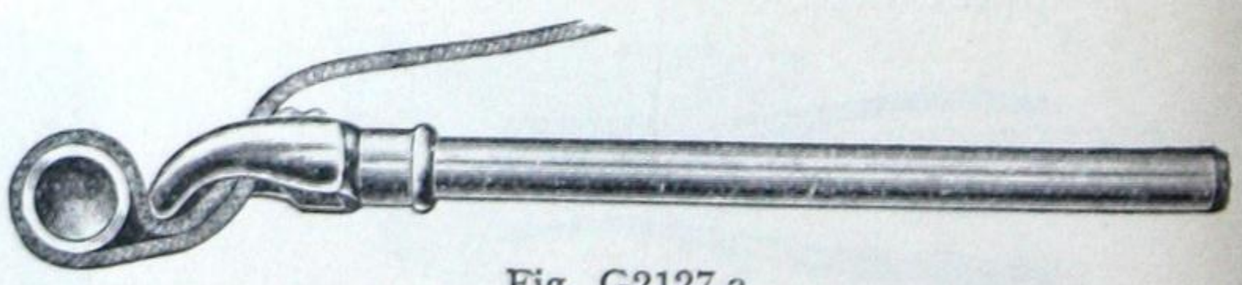


Fig. G2127.a.

Price.....Each $2.00

Extra Straps..... " .50

BUZZELL BASIN WRENCH.



Fig. G2128

Each..... $2.00

FALCON WASTE PLUG SPANNER.

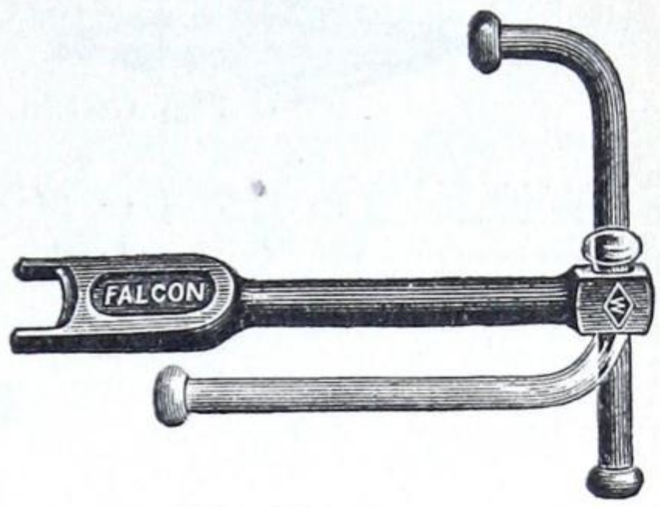


Fig. G2129.

Each..... .80

VULCAN AUTO TOOL
Drop Forged and Tempered

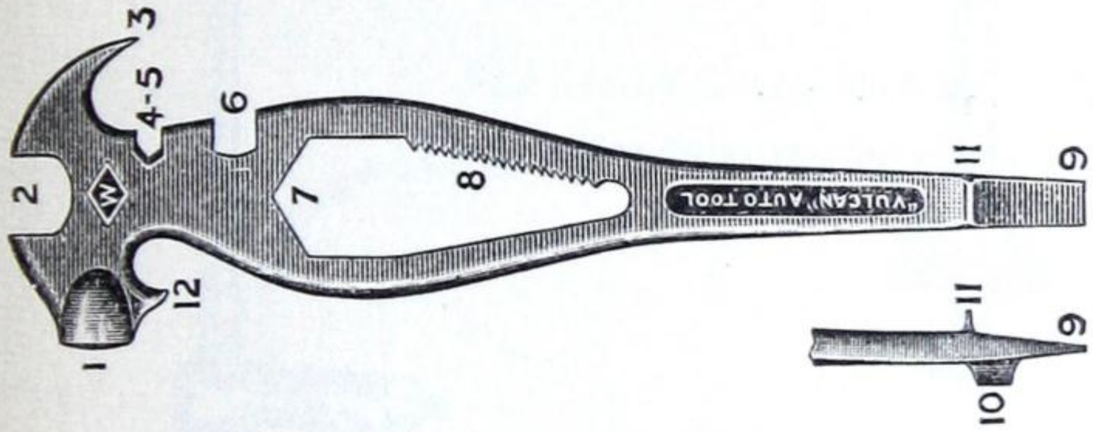


Fig. G2130.

1 Hammer
2 Tire Lug Wrench
3 Cotter Pin Puller
4 Gas Tank Wrench
5 Wire Insulation Scraper
6 Air Tank Wrench
7 Spark Plug Wrench
8 Alligator Wrench
9, 10, 11 Cotter Pin Spreader and Screw Drivers
12 Bottle Opener

Weight.....½ pound. Length.....8″

Packed in Canvas Carrier

Price per doz.....$12.00

PIPE TAP.

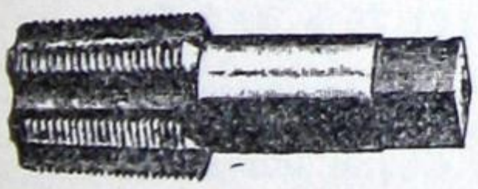


Fig. G2131.

PIPE DRILL.



Fig. G2132.

PIPE REAMER.

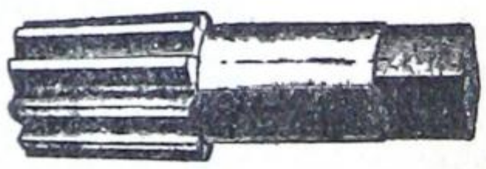


Fig. G2133.

Size.....Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Pipe Taps..Each	1.12	1.25	1.50	1.87	2.50	3.12	3.75	4.62	6.25	10.50	15.00	22.00	33.00
Pipe Drills.. "	.90	.90	.95	1.00	1.05	1.15	1.25	1.35	1.55	1.80	3.25	.....	.....
Pipe Reamers "	1.12	1.25	1.50	1.87	2.50	3.12	3.75	4.62	6.25	10.50	15.00	22.00	33.00

BURRING REAMER.

Bit Brace Shank.



Fig. G2136.

No.	33	3	5
For Pipe	⅛ to 1¼″	½ to 1″	1¼ to 2″
Each	$1.50	1.25	3.50

Cross Handle.

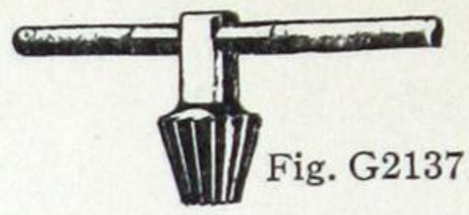


Fig. G2137.

No.	6
For Pipe	1¼ to 2″
Each	$3.50

HALL'S REAMER.

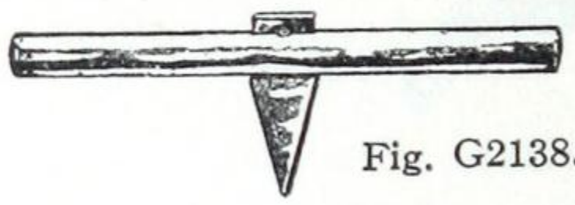


Fig. G2138.

No.	1	2
For Pipe	⅛ to 1″	¾ to 2″
Each	$ .80	.90

MUELLER PIPE REAMER.

⅜″ to 3″ Pipe.



Fig. G2139.

Plain.....Each	$5.00
With Ratchet "	7.50
With Bit Brace Shank ⅜″ to 1¼″ Pipe.....	2.25

BIBB RESEATING TOOL.



Fig. G2141.

4 Cutters for ⅜″, ½″, ⅝″ and ¾″ Bibb.
Price, Each..... $3.00
Extra Cutters, per Set..... 2.10

MONARCH RATCHET.

Single Acting Square Shank Drill.

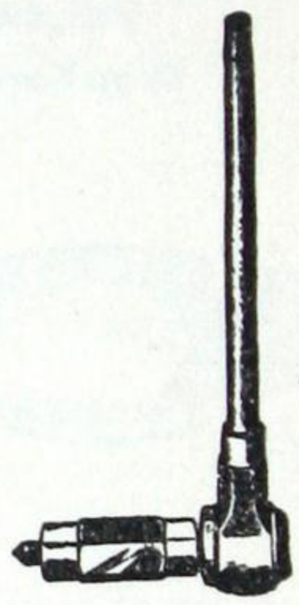


Fig. G2143.

Size, Length of Handle	10″	12″	15″
Price.....	$5.00	5.50	6.00

CHAIN DRILLS.

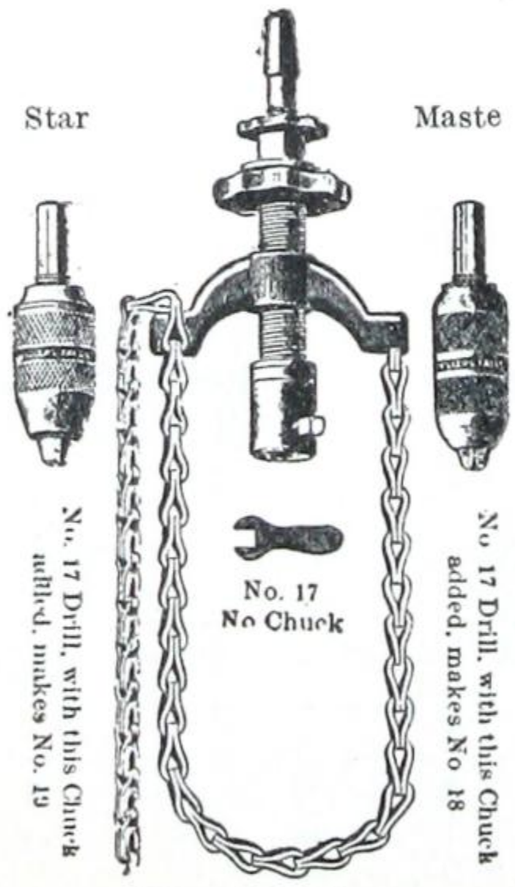


Fig. G2145.

Numbers.....	17	18	19
Each.....	$3.25	5.00	6.75

No. 17 with Plain Socket ½″ and Set Screw.

No. 18 is No. 17 with Master Chuck added for holding sq. and taper shanks, also round shanks, ⅛ to ½″.

No. 19 is No. 17 with three-jawed star chuck added for holding round shank drills No. 0 to ½″.

"MUELLER" SEWER RODS.

This rod maintains itself in concentric coils when not in use, but may be readily uncoiled while it is being worked into a sewer.

It has a spear point which easily penetrates a mass of obstruction in a sewer, while immediately behind the point are two pairs of barbs which hook securely into the obstruction and pull it out when the rod is withdrawn.

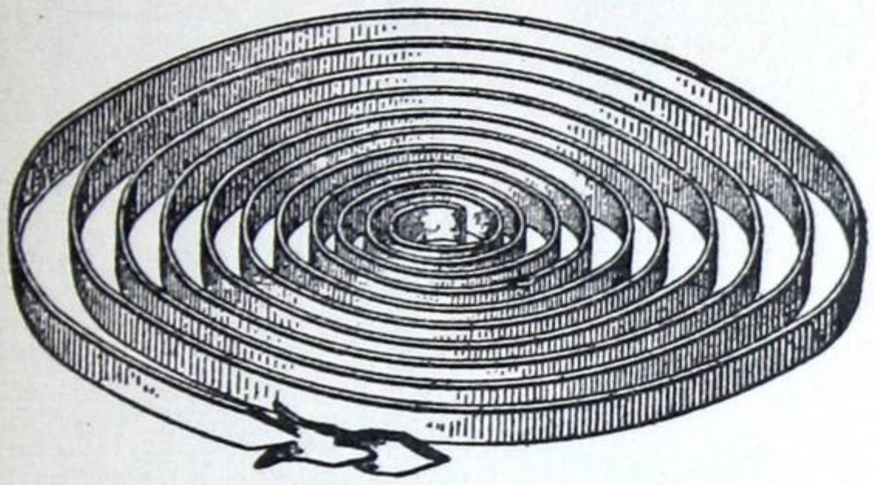


Fig. G2146.

Length Feet..	25	40	50	60	75	100
⅛ x 1¼" Steel, each.....	$4.75	6.50	7.50	8.50	10.50	13.50
⅛ x 1½" Steel, each.....					13.00	16.50

FLEXIBLE COIL WIRE CLOSET CLEANER.

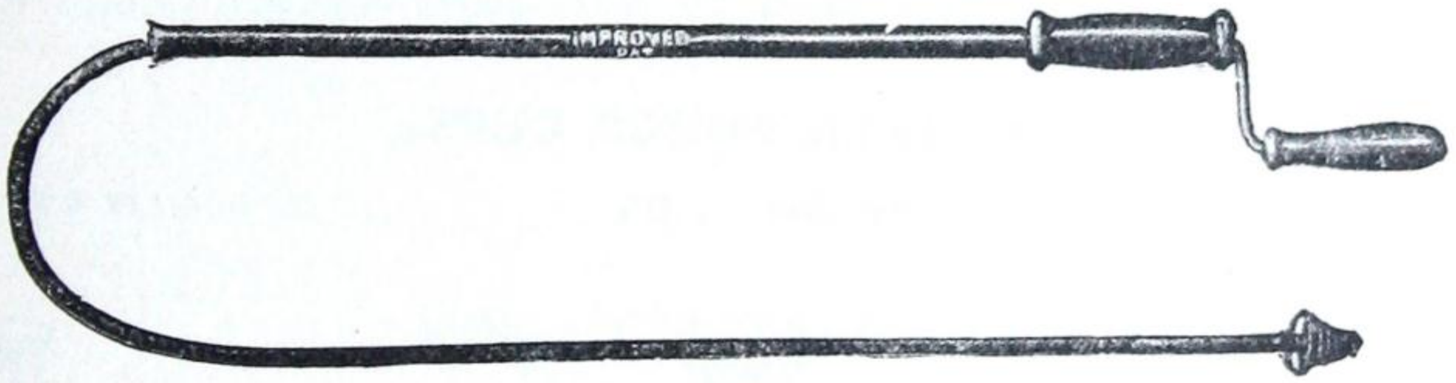


Fig. G2147.

Size Length Feet.....	3	6	8
Price, each.....	$4.75	5.50	6.25



Fig. G2150.

COLEMAN'S IMPROVED SUCTION AND FORCE PUMP.

This pump is made for removing obstructions from Plumbing Fixtures and is very powerful. All metal parts are brass and rubber cup is reversible. Cup will fit any opening up to 5 inches.

Diameter of Pump.....	2 inches
Length of Pump.....	22 inches
Price.....	$9.00

EMERY GRINDER.
Foot Power
with Drill Attachment.

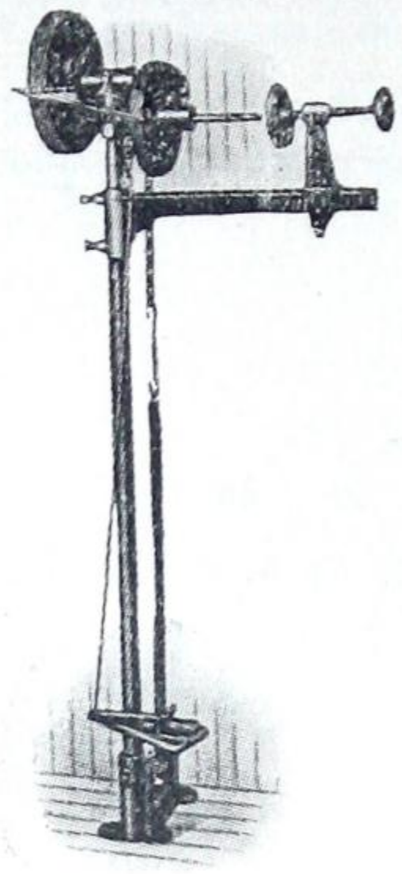


Fig. G2156.

Each.....$20.00
Extra Emery Wheels.....Each 3.00

EMERY GRINDER.
Foot Power.

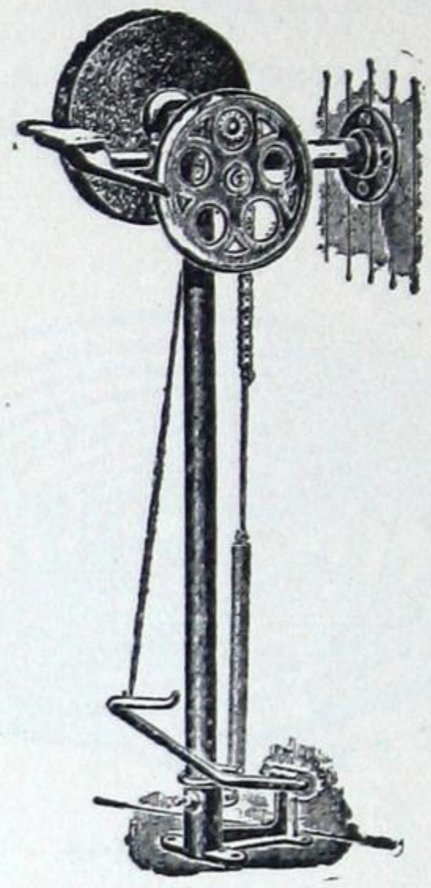


Fig. G2157.

Each.....$12.00
Extra Emery Wheels.....Each 3.00

RUBBER FORCE CUPS.

PLUMBER'S FRIEND.
For Long Handle.



Fig. G2161.

Nos.	1	2	3
Dia.	3½″	4″	6″
Per Doz.	$9.00	11.00	15.00

HANDY ANDY.



Fig. G2162.

Nos.	1	2
Dia.	3½″	4½″
Per Doz.	$9.00	11.00

OLD STYLE.

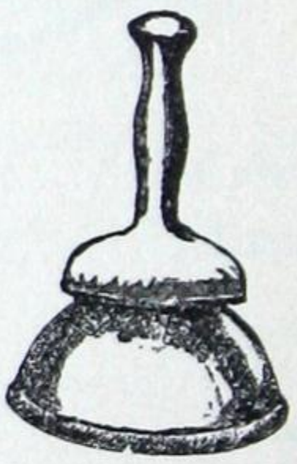


Fig. G2163.

Nos.	1	2
Dia.	4″	5″
Per Doz.	$9.00	10.80

FLETCHER GAUGE GLASS CUTTER.

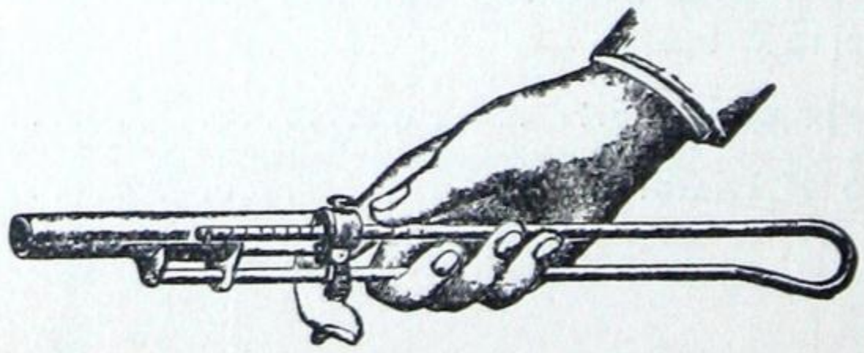


Fig. G2165.

Price, Each..... $0.70

GAS TEST PUMP WITH TUBE, GAUGE AND ETHER CUP.

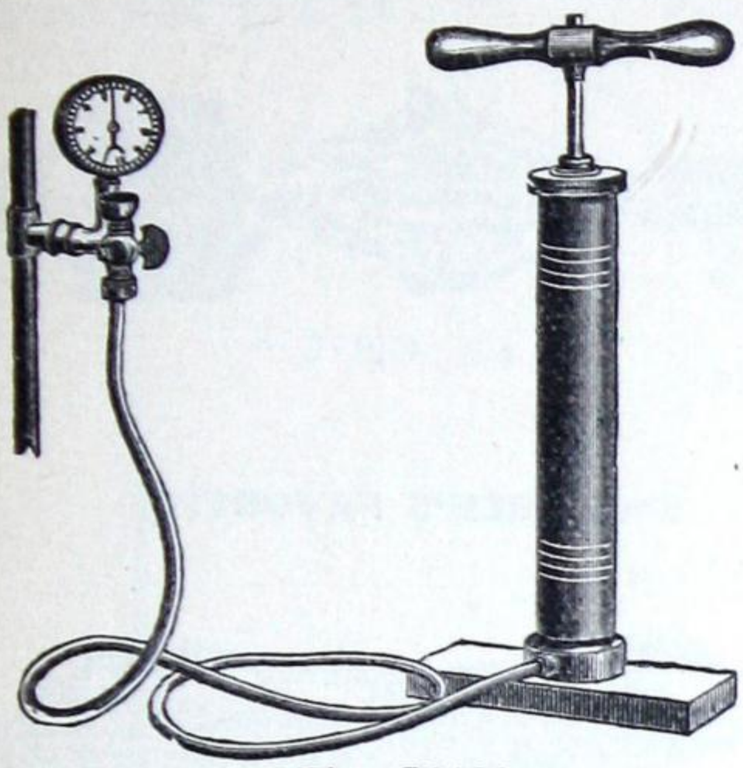


Fig. G2166.

Pump, complete.....Each	$18.00
Pump only.....	9.00
Gauge only.....	7.00
Cock and Ether Cup.....	4.00
Hose per foot.....	.20

PLUMBERS' FORCE PUMP.

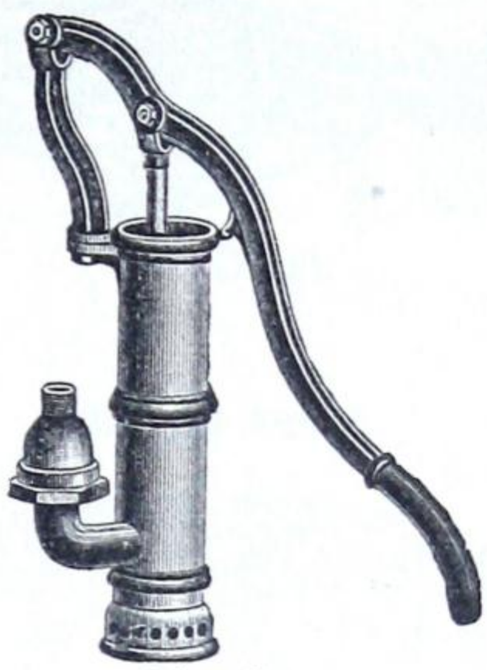


Fig. G2167.

Each.....$12.00

SMOKE TEST MACHINES.

FOR TESTING SOIL PIPE.

Bernz.

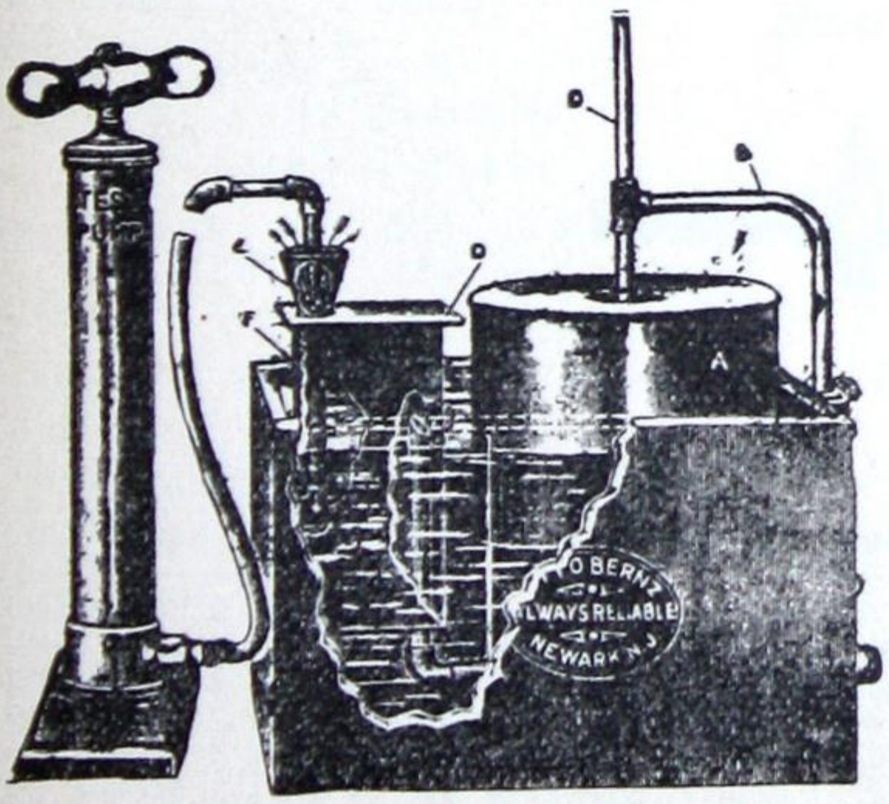


Fig. G2168.

Price, with Pump.....	$50.00
" without Pump.....	40.00

Thompson.

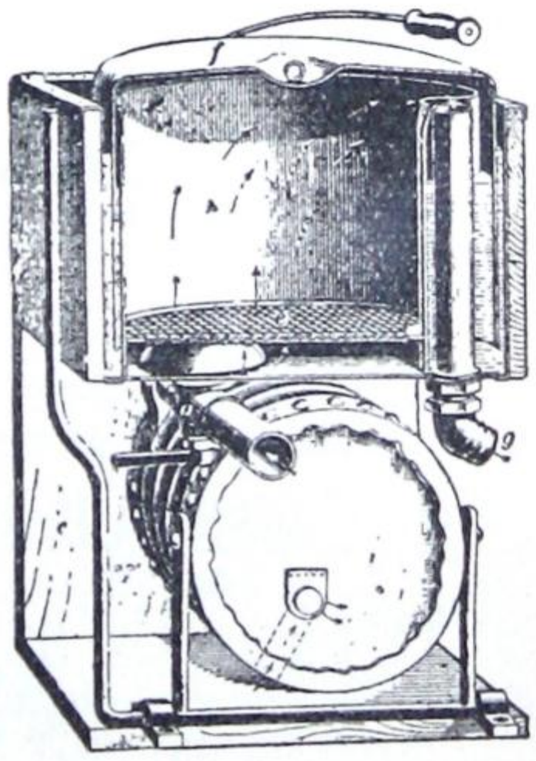


Fig. G2169.

Price.....each $50.00

TUBE CLEANERS.

INGALL'S.

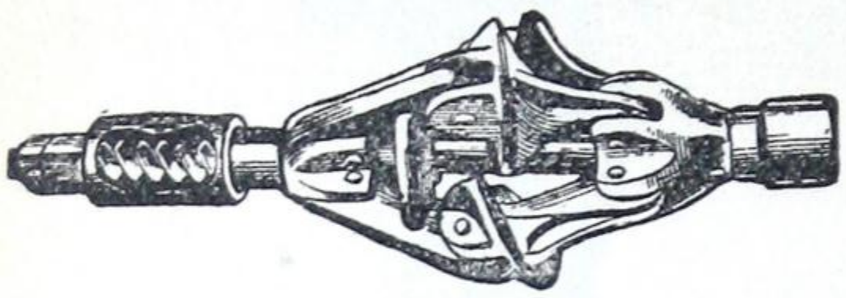


Fig. G2171.

INGALL'S WITH BRUSH.

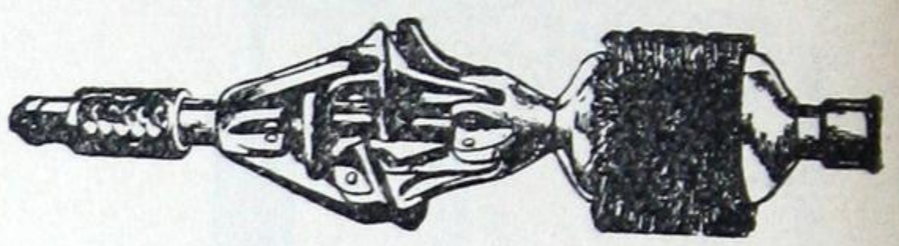


Fig. G2172.

CRISS CROSS.

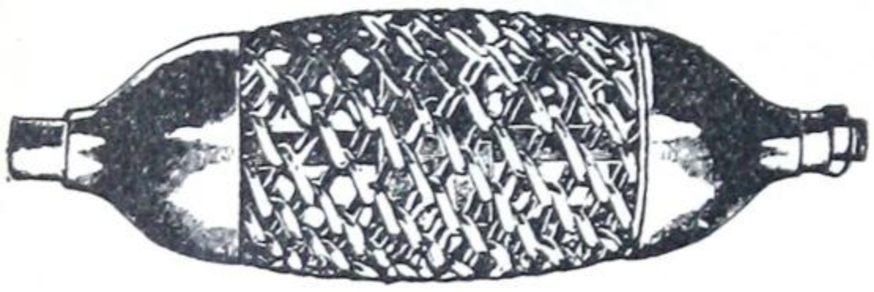


Fig. G2173.

ENGINEER'S FAVORITE.

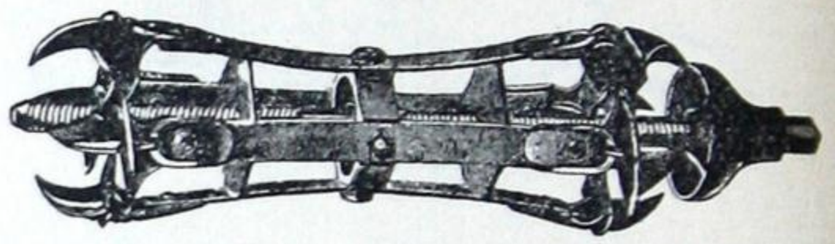


Fig. G2174.

NATIONAL.



Fig. G2175.

ELLIPTIC.



Fig. G2176.

FLAT STEEL WIRE.



Fig. G2177.

Sizes.....Inches	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	4
Ingall's.....Each	$2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00
Ingall's with Brush.... "	2.50	2.50	2.50	2.80	3.10	3.45	3.75	4.10	4.40	5.00
Criss Cross..... "	2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00
Engineer's Favorite.... "	2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00
National..... "	2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00
Elliptic..... "	2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00
Flat Steel Wire..... "	2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	4.00

Note.—As the size of tube is taken on the outside, the Diameter of Cleaner will be approximately ¼ inch smaller.

COPPERED STEEL OILERS.

Railroad Nos. 10 & 11.

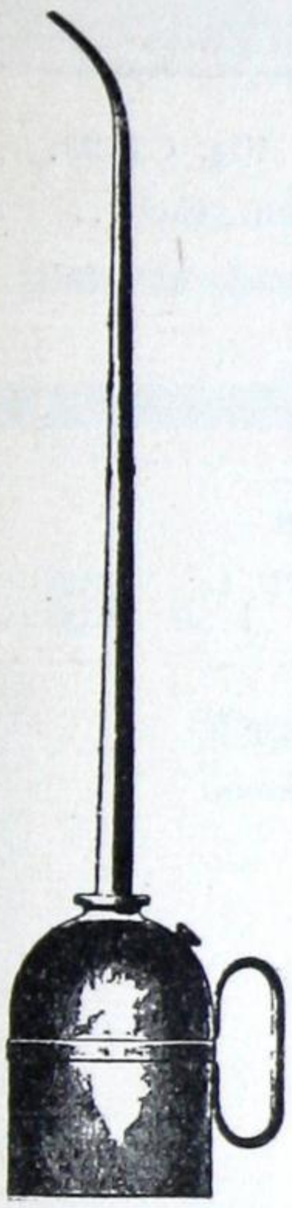


Fig. G2183.

Filler No. 19.



Fig. G2181.

Tallow Pot No. 212.



Fig. G2182.

No. 14.

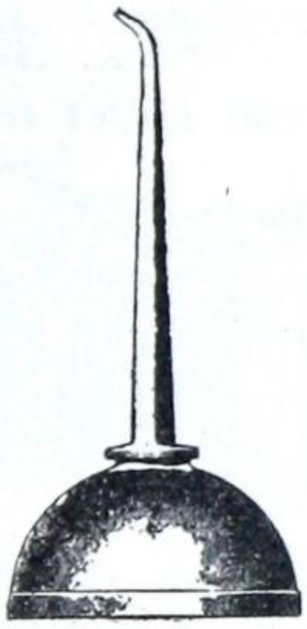


Fig. G2184.

Nos. 12 & 13.



Fig. G2185.

Engineers' Sets.

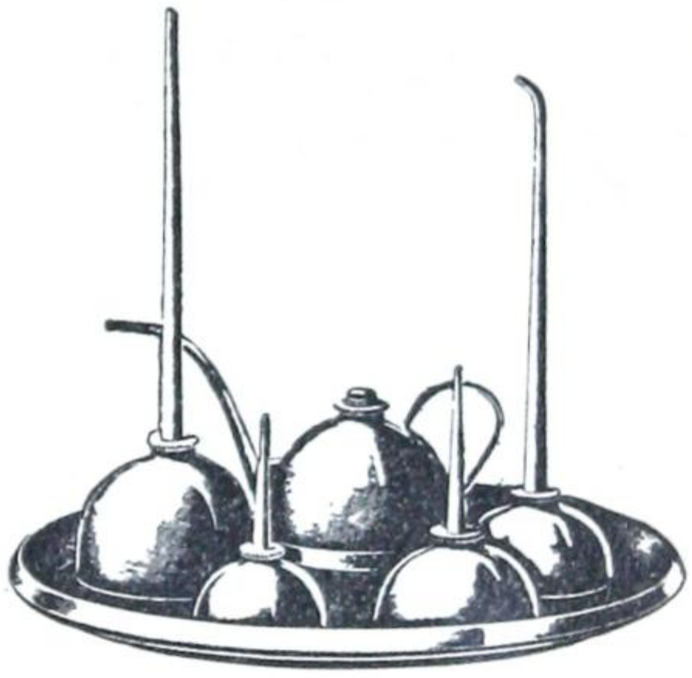


Fig. G2186.

Number.....	10	11	12	13	14	19	212	213
Capacity.....Pints	1	2	¼	½	½	1	2	4
Diameter.....Inches	3⅜	4⅛	2¾	3⅜	3⅜	4⅛	5	6
Height..... "	5	6	..	..	..	3½	5	6
Length of Nozzle.... "	12	18	2½	3	9	..	..	..
Price.....Per Dozen	$14.00	18.00	4.50	5.50	6.50	14.00	21.00	25.00

Engineers' Set, No. C30—(5 pieces) including Round Tray, per Set..... $5.00
" " " C40—(6 pieces) " " " " 7.00

"DUDGEON" PATTERN TUBE EXPANDER.



Fig. G2188.

1″	1¼″	1½″	1¾″	1⅞″	2″	2¼″	2½″	2¾″	3″	3¼″	3½″	3¾″	4″	4¼″	4½″	5″	6″
$10.00	10.00	10.00	10.00	10.00	10.00	12.00	14.00	16.00	18.00	20.00	23.00	25.00	30.00	35.00	40.00	50.00	60.00

TACK MOULD.

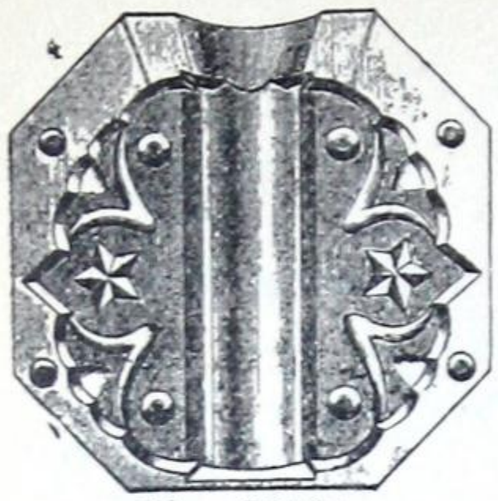


Fig. G2191.

Double.....Each $4.00

WASHER CUTTER.

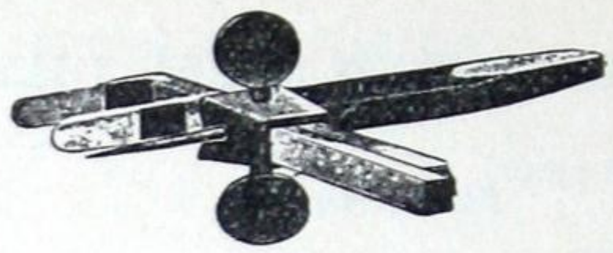


Fig. G2192.

Each..... $1.25

WIPING CLOTH.

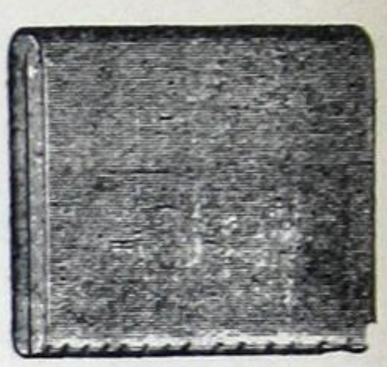


Fig. G2193.

Moleskin, each..... $ .38

GREASE BOX.



Fig. G2194.

Each..... $1.50

LEAD PIPE BENDING SPRING.



Fig. G2195.

Size.	1	1¼	1½	2
Price....	$1.50	1.50	1.50	2.00

DOLLAR BACK LEAD PIPE HOLDERS.

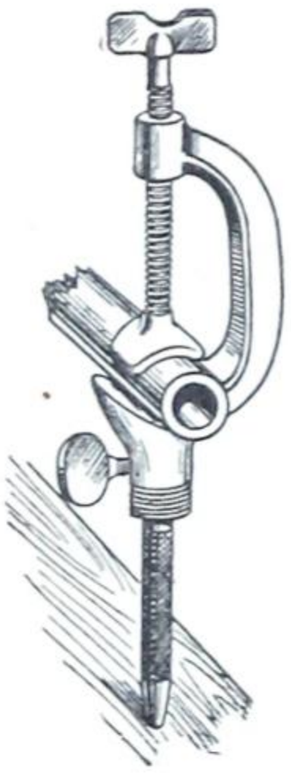


Fig. G2196—Each..$1.00

ASBESTOS JOINT RUNNERS.

Fig. G2197.

Numbers.....	1	2	3	4	5	6	7
Size of Square...	¾	¾	1	1	1¼	1¼	1¼
Sizes of Pipe, ins.	2 to 4	4 to 6	6 to 10	10 to 14	8 to 12	10 to 14	16 to 20
Price, each.....	$2.50	$3.00	$4.50	$6.00	$8.00	$10.00	$13.50

SOLDERING PASTE AND FLUX.



Fig. G2198.a

Soldering Paste.

¼ lb. Tins.....Each $ .35
½ " " ..... " .50
1 " " ..... " .80

Soldering Flux.

½ Gallon Jar..... $1.20
1 " " 2.00

PLUMBERS' SOIL.

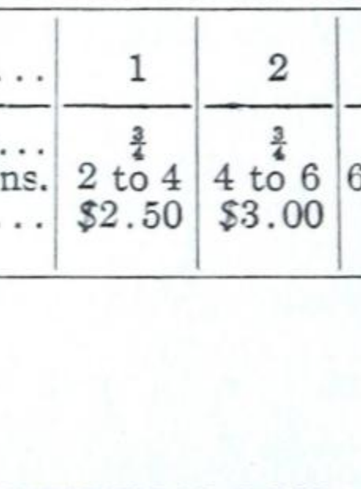


Fig. G2198.b

1 Pint Tin, per tin.. $ .50

TOOL BAGS.

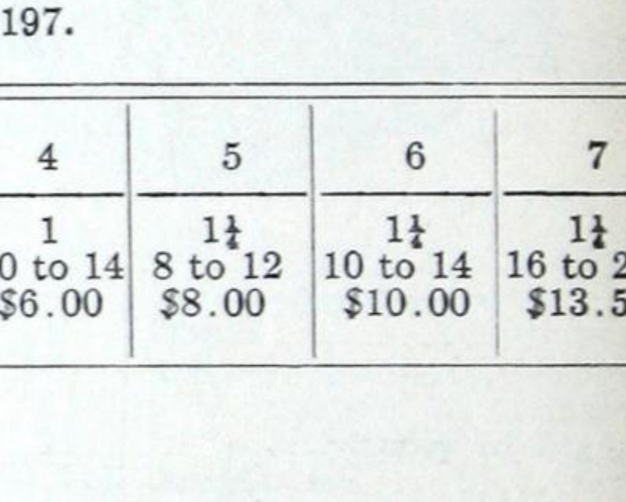


Fig. G2199.

All Carpet.....	$6.00
Leather Bottom.....	7.15
Leather Bottom and Sides	9.00
All Leather.....	9.70

SOLDERING BOLT.



Fig. G2201.

Per lb..... $ .60
1, 1½, 2, 2½, 3, 3½, 4, 4½, 5, 6, 7 & 8 lbs. per pair.

BOLT HANDLES.



Fig. G2202.
Per Doz., $ .50

HATCHET BOLT. Swivel Pattern.

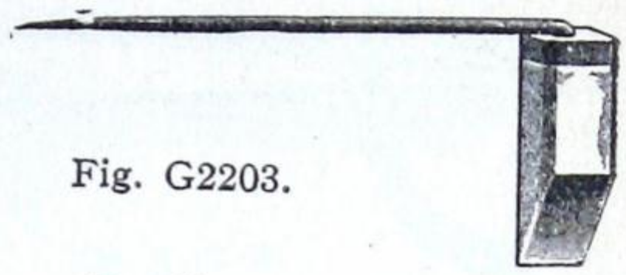


Fig. G2203.

Per lb..... $ .60

BLOW PIPE.

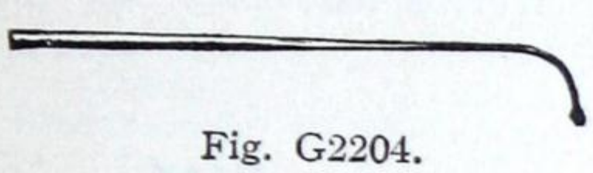


Fig. G2204.

Each..... $ .80

ROUND IRON.

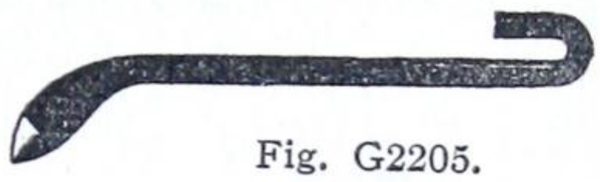


Fig. G2205.

Per lb..... $ .30

CHIPPING KNIFE.



Fig. G2206.

Each..$ .50

TAP BORER.



Fig. G2207.

Each..... $ .50

SHAVE HOOK.



Fig. G2208.

Each... $ .30

SWEDGING TOOL FOR LEAD PIPE.

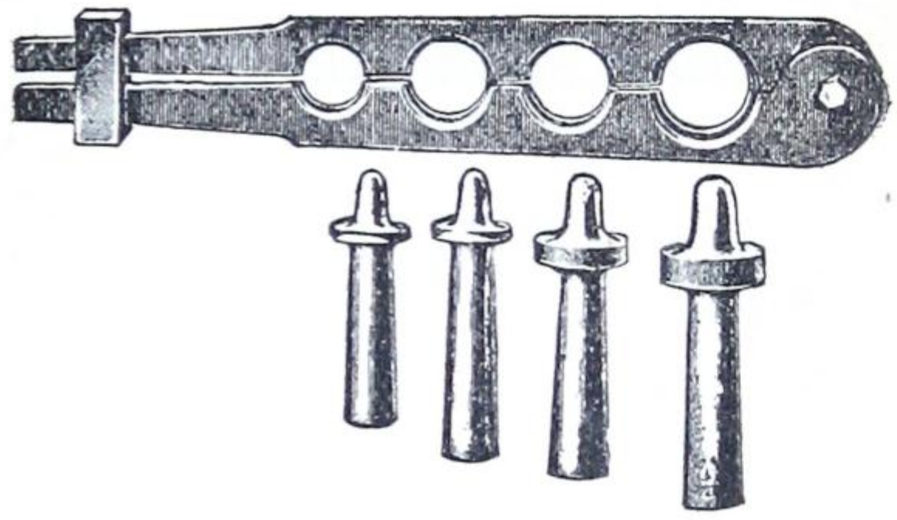


Fig. G2210.

For ½, ⅝, ¾ & 1, Lead Pipe..Each $16.00

DRIFT PLUG.

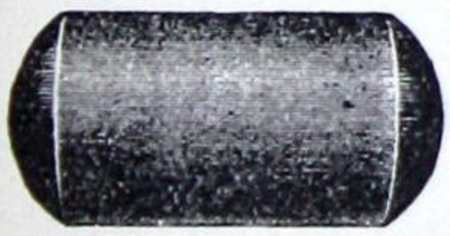


Fig. G2211.

Size, inches...	1	1¼	1½	2
Each.....	$0.27	.30	.35	.40

TURN PIN.

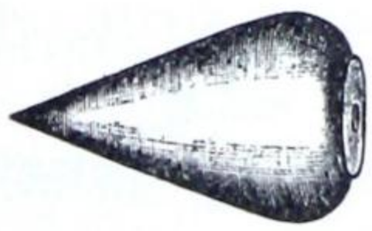


Fig. G2212.

Size, number.....	1	2	3
Each.....	$0.30	.45	.60

DRESSER.



Fig. G2213.

Boxwood, each..... $1.00

SIDE EDGE.



Fig. G2214.

Each..... $ .75

BOSSING STICK.



Fig. G2215.

Boxwood, each.....$1.00

DIVIDERS.

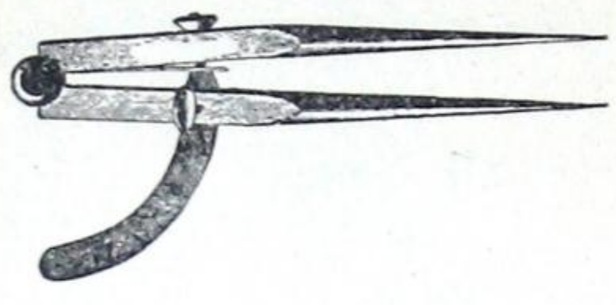


Fig. G2221.

Length.	5	6	7	8	9	10	12
Per doz..	$5.50	5.50	6.50	7.50	9.00	10.00	12.00

SCREW DRIVER.



Fig. G2222.

Size.....	4	6	8	9	10
Each.....$	.35	.50	.65	.75	.85

FILES.



Fig. G2225.



Fig. G2226.

Length.....	10	12	14
Flat, per doz..	$7.00	9.70	13.30
Half Round, per doz..	$9.10	11.80	15.50

FILE HANDLE.



Fig. G2227.

Price.....50c doz.

RASP.



Fig. G2228.

Length.....	10	12	14
Flat, per doz..	$12.80	17.50	23.20
Half Round, per doz....	$13.70	18.70	24.80

HAND SAW.



Fig. G2231.

Length..Inches	12	14	16
Price.....	$1.10	1.30	1.50

COMPASS SAW.



Fig. G2232.

Price....each 50 cents

HACK SAW FRAME—ADJUSTABLE.



Fig. G2233.

For 8″ to 12″ Blades, per dozen.....$21.00

Saws, Length	8″	9″	10″	11″	12″
Price per gross	$8.00	9.00	10.00	11.00	12.00

SCRATCH AWLS.



Fig. G2235.

Cast Steel, 16 cents each.....per dozen $1.50

BENDING PIN.



Fig. G2236.

Each.....30 cts.

LADLES.

WITH LIP.

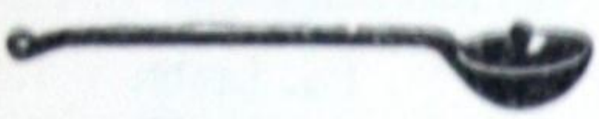


Fig. G2237.

SOCKET WITH LIP.



Fig. G2238.

	With Lip.									Socket With Lip.	
Size Dia., inches	2	2½	3	3½	4	4½	5	5½	6	6	8
Capacity Lead pounds	¾	1	1½	3	4½	6	7½	10	13½	14	32
" Wiping Solder pounds	½	¾	1½	2½	4	5½	6½	8½	11½	12	28
Price, each	.18	.20	.22	.26	.32	.40	.50	.56	.70	1.20	2.30

SOLDER POTS.

REGULAR



Fig. G2239.

	Regular.					Pouring with Lip.
Size, Diameter, Inches	5	6	8	10	12	6
Capacity Lead pounds	21	26	71	138	218	42
" Wiping Solder Pds	18	22	62	120	190	37
Price, each	.50	.65	1.10	1.75	3.00	2.00

Pouring With Lip and Tilting Lug.



Fig. G2240.

Weights given are when full to overflowing with molten metal.

CAULKING CHISELS.



Fig. G2241.

Number and Description.	No. 1 Short Caulking Chisel.	No. 2 Long Caulking Chisel.	No. 3 Finishing Caulking Chisel.	No. 4 Left Hand Caulking Chisel.	No. 5 Right Hand Caulking Chisel.	No. 6 Yarning Chisel.
Price, each	$0.30	.35	.35	.40	.40	.80

Price, per set, Nos. 1 to 6 ..... $3.35

WOOD CHISEL.



Fig. G2242.

Each, 1"..... 40c.

WOOD GOUGE.



Fig. G2243.

Each, 1"..... 40c.

COLD CHISEL.



Fig. G2244.

Each, ½"..... 35c.
Each, ⅝"..... 35c.

CAPE CHISEL.



Fig. G2245.

Each..... 40c.

ROUND NOSE CHISEL.



Fig. G2246.

Each..... 40c.

HALF ROUND NOSE CHISEL.



Fig. G2247.

Each..... 40c.

DIAMOND POINT CHISEL.



Fig. G2248.

Each..... 40c.

PICKING CHISEL.



Fig. G2249.

Each..... 40c.

AGRICULTURAL FORGE.
No. 150.



Fig. G2251.

Size of Fire Pan	18 inches
Weight	65 pounds
Price	$14.00

No. 109 FORGE.

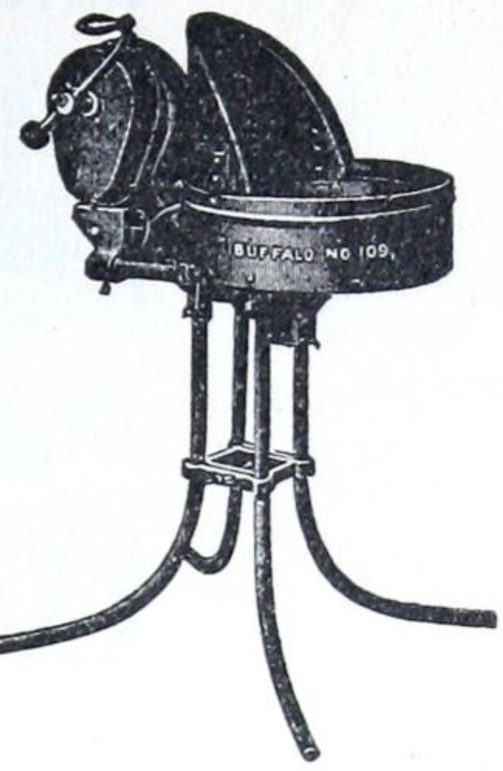


Fig. G2252.

Dia. of Fan	12 inches
Size of Fire Pan	18 inches
Weight	120 pounds
Price	$35.00

No. 625 FORGE.

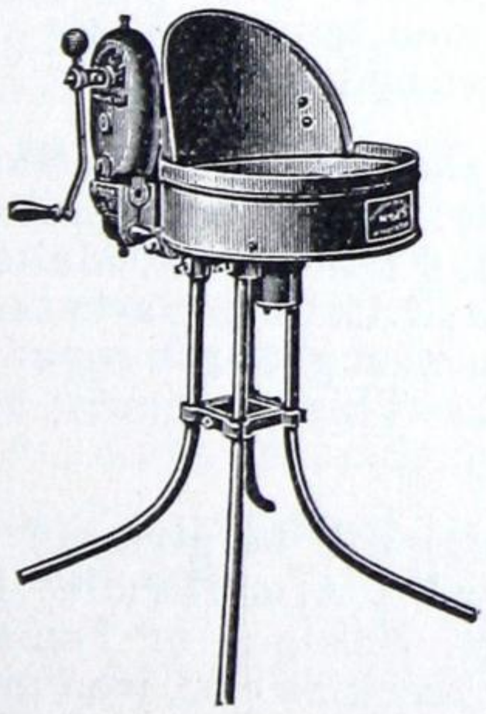


Fig. G2253.

Dia. of Fan	12 inches
Size of Fire Pan	18 inches
Weight	110 pounds
Price	$35.00

No. 651 FORGE.

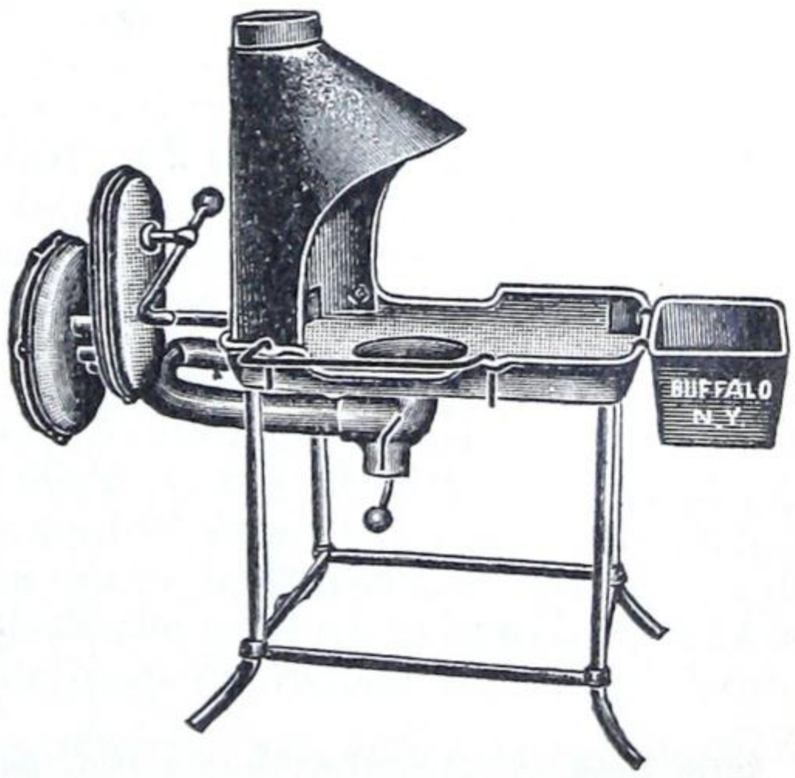


Fig. G2254.

Dia. of Fan	12 inches
Size of Fire Pan	23 x 30 inches
Weight	195 pounds
Price as shown	$44.00
Price without Water Tank	40.00
With Half Hood, as shown in No. 625 deduct	3.00

MUELLER No. 1.

WATER TAPPING MACHINES.

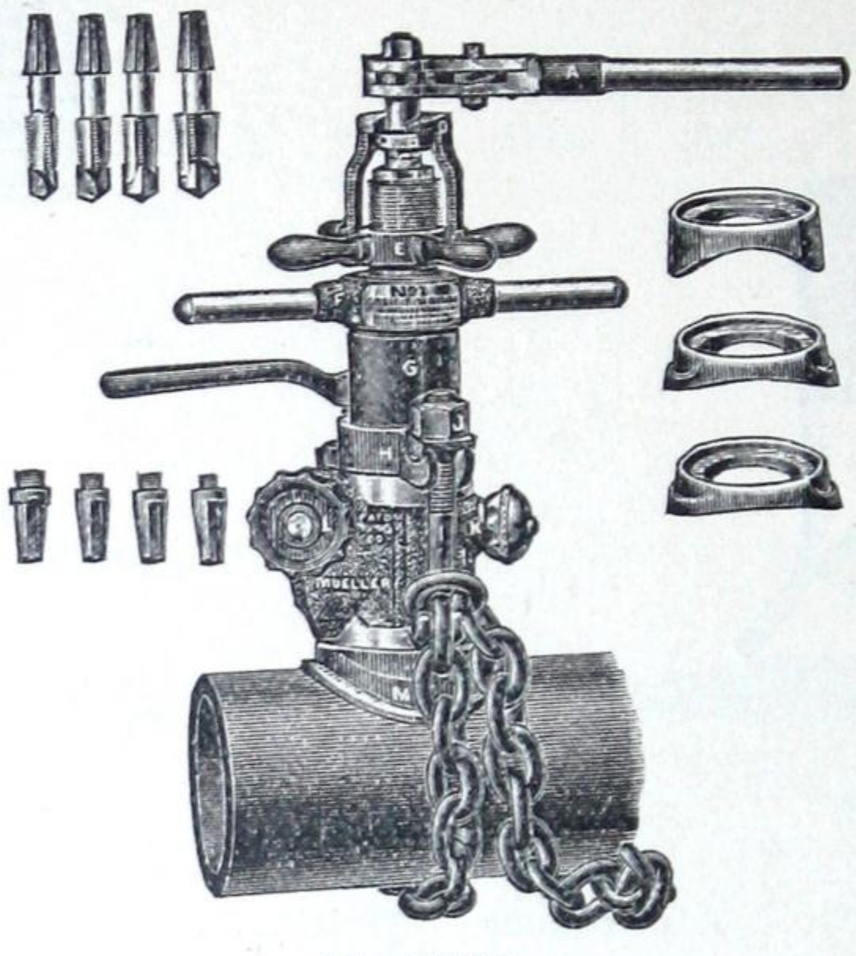


Fig. G2256.

This Water Tapping Machine with Standard Equipment.

List, $90.00.

This Machine has good length bearings, a full ratchet movement around the machine, and the Mueller Patent Self-Adjusting Valve, the closing of which will not be interfered with by gravel in the water or iron chips from the tap. It is adapted for making taps and inserting corporation cocks from $\frac{3}{8}$ to 1 inch size under pressure. It will make taps as large as 2 inch in dry or open mains, but we do not recommend it for dry tapping, as we make cheaper machines that will do this work just as well. It can be used for cast iron, wrought iron, kalamein and universal pipe. Tapping universal pipe requires the use of Mueller Special Saddles and Gaskets.

Standard Equipment.—Standard Equipment includes: Ratchet Handle complete; Combined Feed Nut and Yoke with 4 Arm Handle; Tools with Mueller Thread, sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and 1 inch; Plugs, Male Screw, sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and 1 inch; Malleable Iron Saddles, sizes for 4, 6, 8 and 10 inch cast iron pipe; Small Rubber Gaskets for top of Saddles; Large Rubber Gasket for all sizes of cast or wrought iron pipe; Chain for 4 to 12 inch pipe; Chain Wrench; Body Cleaning Chisel. This equipment will always be furnished unless otherwise specified.

Optional Equipment.—Upon specification, options will be given of Combined Feed Nut and Yoke with Wheel Handle instead of with 4 Arm Handle; Tools with I. P. Thread instead of with Mueller Thread; Plugs, Hexagon or Female Screw, except $\frac{3}{8}$ inch, instead of Male Screw, four Saddles for any size cast iron pipe instead of for 4, 6, 8 and 10 inch pipe; four saddles for any size of wrought iron pipe instead of for cast iron pipe; Saddles and Gaskets to fit bosses of universal pipe instead of for cast iron pipe; Chain for any size of pipe larger than 12 inch.

Shipping Weight.—Shipping weight of the machine with Standard Equipment is about 115 pounds.

MUELLER No. 2.

WATER TAPPING MACHINES.

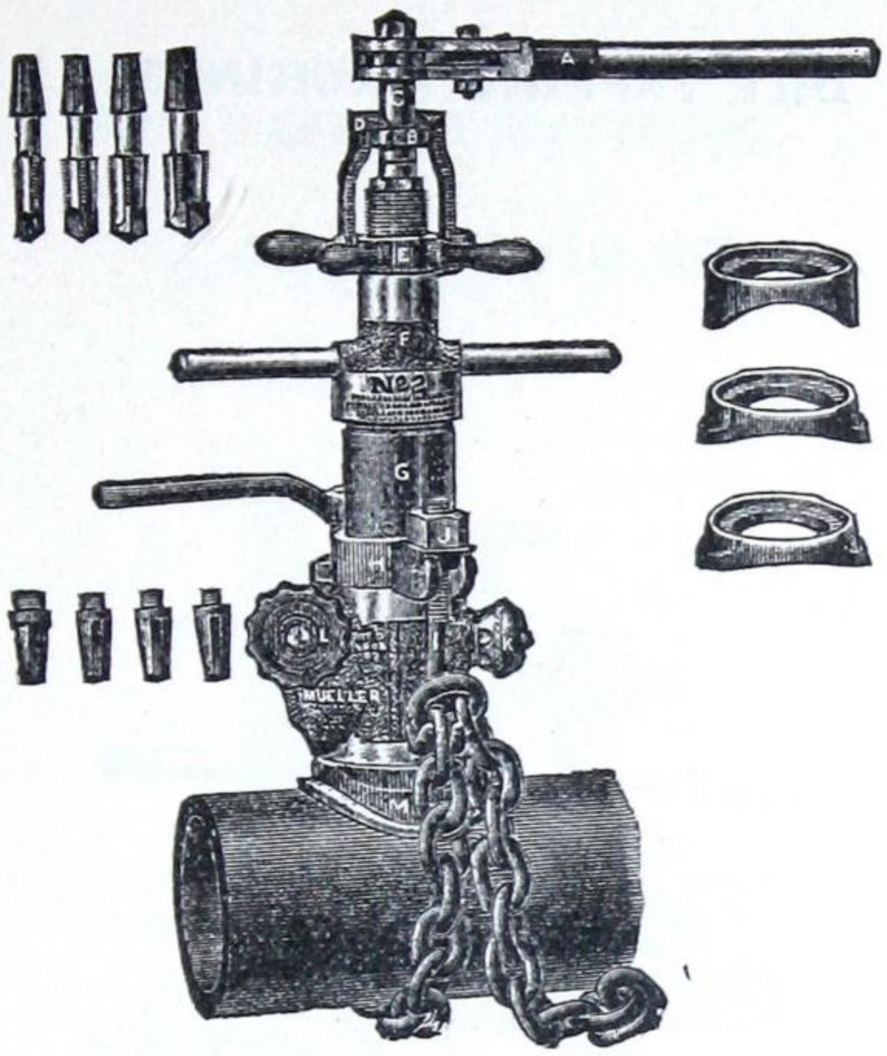


Fig. G2257.

This Water Tapping Machine with Standard Equipment.

List, $100.00.

The No. 2 Machine makes taps and inserts corporation cocks from $\frac{3}{8}$ to 1 inch size, the same as the No. 1 Machine. It is used for the same class of work as the No. 1 Machine, but is heavier, has longer bearings and is consequently better constructed for wear. It also has a heavier and longer Ratchet Handle than the No. 1 Machine, which affords more power for large size taps, has the full sweep ratchet feature and is provided with the Mueller Self-Adjusting Valve. This is the original machine designed for tapping a water main under pressure, and more of them are in use to-day than any other kind or make of machine.

Standard Equipment.—Standard Equipment includes: Ratchet Handle complete; Combined Feed Nut and Yoke with 4 Arm Handle; Tools with Mueller Thread, sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and 1 inch; Plugs, Male Screw, sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and 1 inch; Malleable Iron Saddles, sizes for 4, 6, 8 and 10 inch cast iron pipe; Small Rubber Gasket for top of Saddles; Large Rubber Gasket for all sizes of cast or wrought iron pipe; Chain for 4 to 12 inch pipe; Chain Wrench; Body Cleaning Chisel. This equipment will always be furnished unless otherwise specified.

Optional Equipment.—Upon specification, options will be given of Combined Feed Nut and Yoke, with Wheel Handle instead of with 4 Arm Handle; Tools with I. P. Thread instead of with Mueller Thread; Plugs, Hexagon, or Female Screw; except $\frac{3}{8}$ inch, instead of Male Screw; four saddles for any size cast iron pipe instead of 4, 6, 8 and 10 inch; four saddles for any size of wrought iron pipe instead of for cast iron pipe; Saddles and Gaskets to fit bosses of universal pipe instead of for cast iron pipe; Chain for any size of pipe larger than 12 inch.

Shipping Weight.—Shipping weight of the Machine with Standard Equipment is about 120 pounds.

MUELLER No. 11.

DRY TAPPING MACHINES.

For Gas Mains, etc.

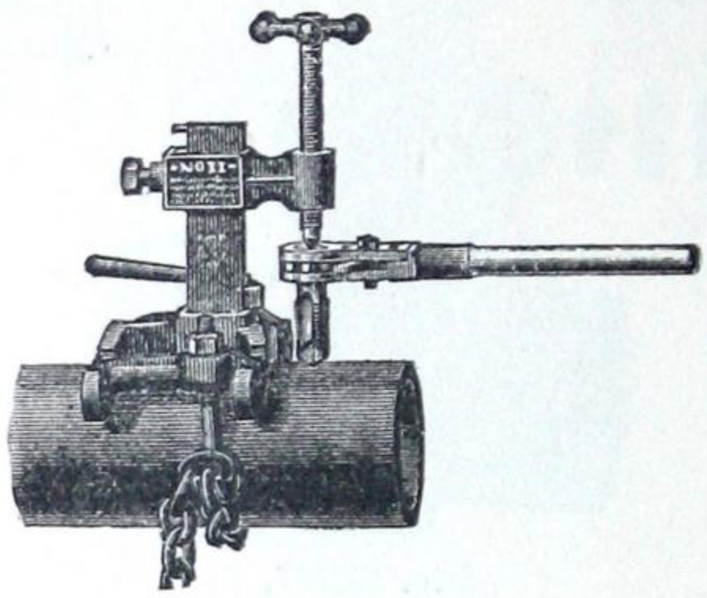


Fig. G2258.

This Machine with Standard Equipment.

List, $20.00.

The No. 11 Mueller Gas Tapping Machine is designed for tapping dry or empty pipe, but it may be used just as well for tapping columns, boilers, structural iron, or in fact any shape of iron that will admit of a chain being placed around it for attaching the machine. It is compactly and solidly built to stand the hard use that a machine used for general purposes will ordinarily get. It has a Malleable Iron Base and a Steel Feed Screw Guide Standard. Owing to its short Standard it uses special short shank tools.

Range of Work.—With suitable tools, this machine will make taps from $\frac{3}{8}$ to 2 inch size in pipe of any size.

Standard Equipment.—Standard Equipment includes: Ratchet Handle complete; Wrench; Chain Spreader; Chain for 12 inch pipe and smaller, but **no tools.** When tools are ordered with the machine, they will always be furnished with I. P. Thread unless otherwise specified.

MUELLER No. 12.

DRY TAPPING MACHINE.

For Gas Mains, etc.

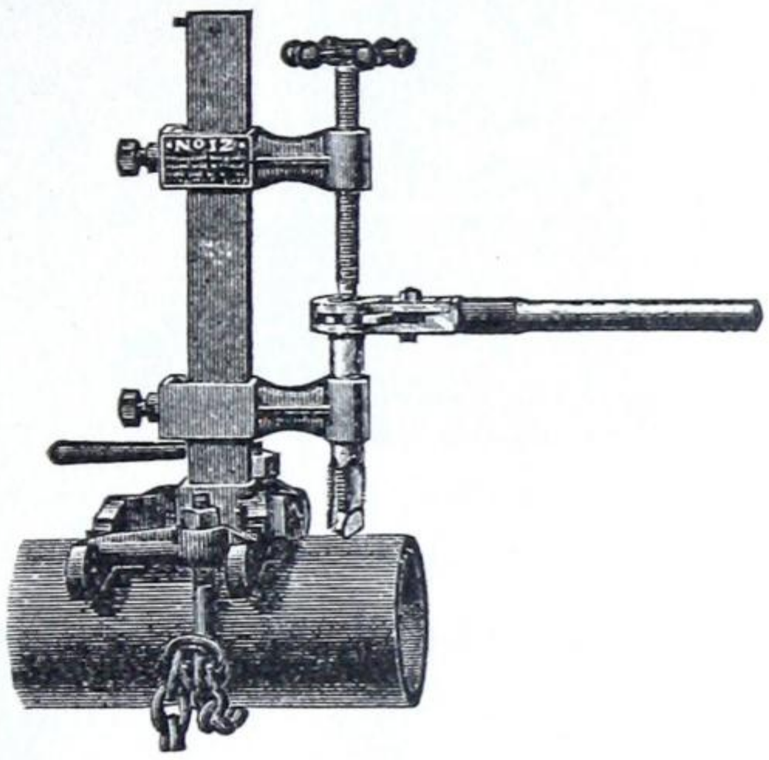


Fig. G2259.

This Machine with Standard Equipment.

List, $23.00.

The No. 12 Mueller Gas Tapping Machine has a Base and parts like the No. 11 Machine, except that it has a Tool Guide, the Feed Screw Guide Standard is longer and the machine, therefore, permits the use of longer tools. It will take tools up to 18 inches in length, which makes it a handy machine for users who have a supply of tools of different lengths. By using a Tool Head Socket, Packer Ratchet Tools may be used with the machine.

Range of Work.—With suitable tools, this machine will make taps from $\frac{3}{8}$ to 3 inch size in pipe of any size.

Standard Equipment.—Standard Equipment includes: Ratchet Handle complete; Wrench; Chain Spreader; Chain for 12 inch pipe and smaller, but **no tools.** When tools are ordered with the machine, they will always be furnished with I. P. Thread unless otherwise specified.

TORCHES.

No. 1.

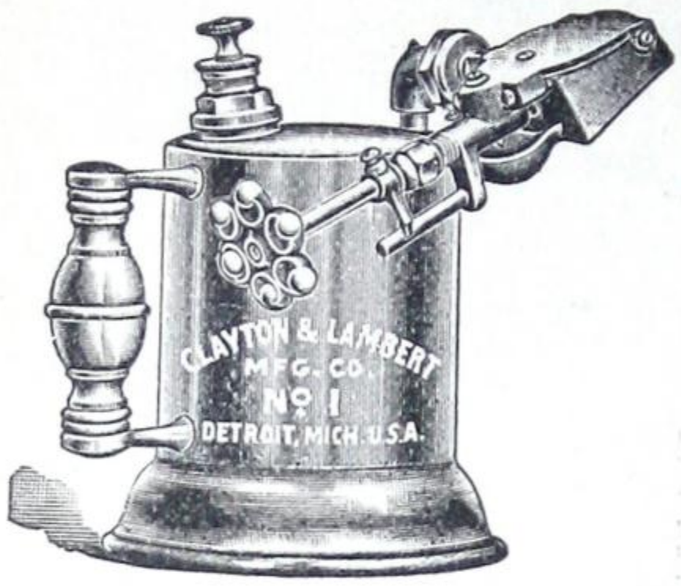


Fig. G2271.

No. 8.

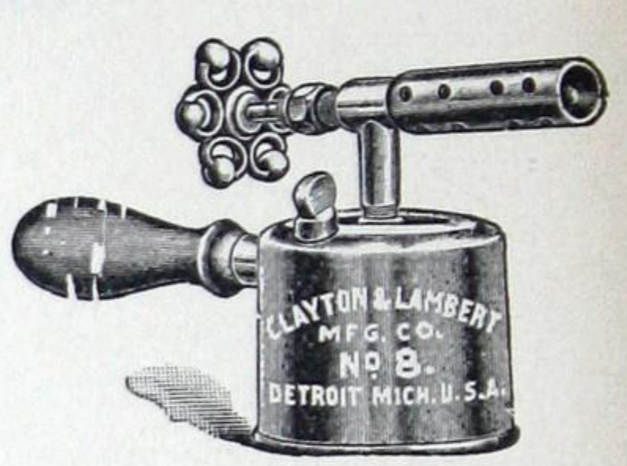


Fig. G2272.

Nos. 31 and 37.

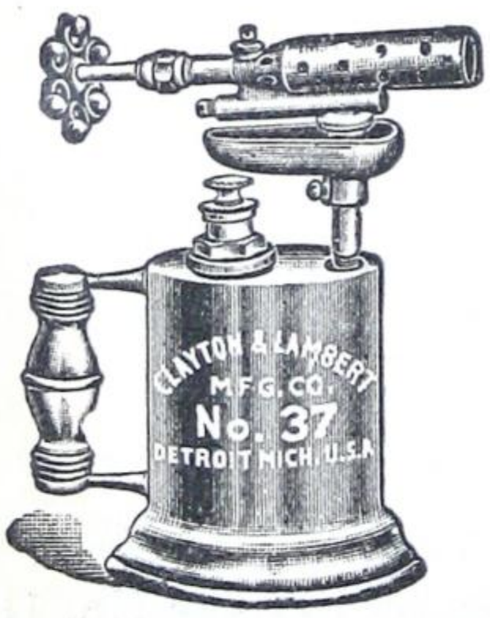


Fig. G2273.

Nos. 32 and 38.

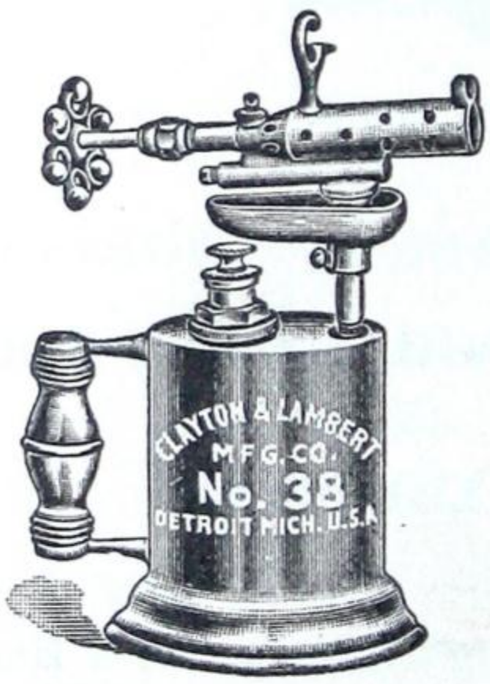


Fig. G2274.

Nos. 95 and 96.



Fig. G2278.

NUMBER	1	8	31	32	37	38	95	96
Capacity.....Pints	2	½	2	2	1	1	1	2
Price.....Each	$6.00	$4.25	$5.25	$5.50	$4.60	$4.85	$4.50	$5.00
Extra Burners.....Each	2.65	1.70	1.70	1.95	1.70	1.95	2.50	2.50

Filler Plugs, 20c. Pumps, 75c. Pump Collars, 15c. Drip Cups, 30c. Needles and Stuffing Boxes, 35c. When ordering always give number of Torch.

Note.—All Torches are for Gasoline, except Nos. 95 and 96 for Kerosene.

FURNACES.

Nos. 1 and 5.

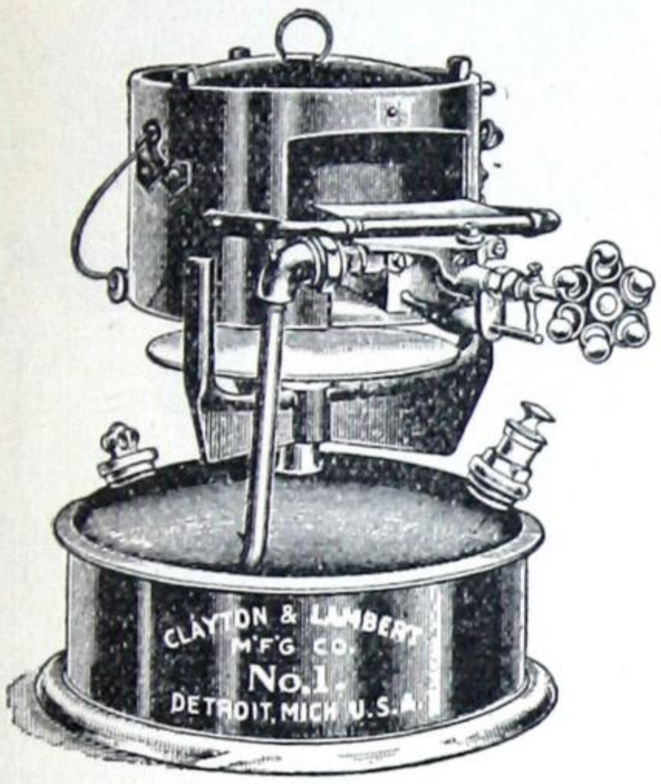


Fig. G2281.

No. 221.

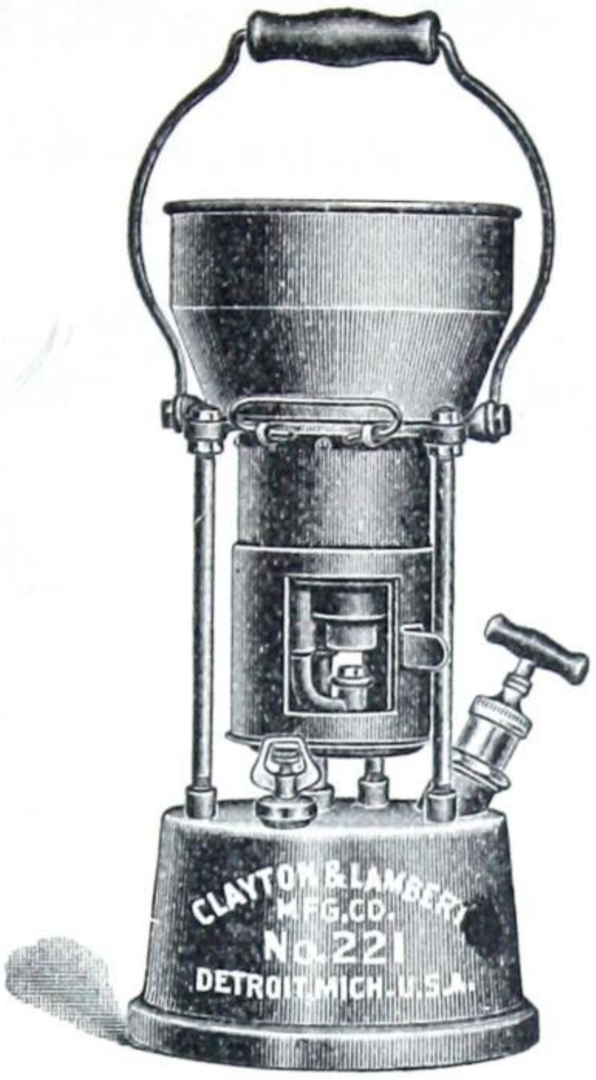


Fig. G2282.

Nos. 71 and 72.

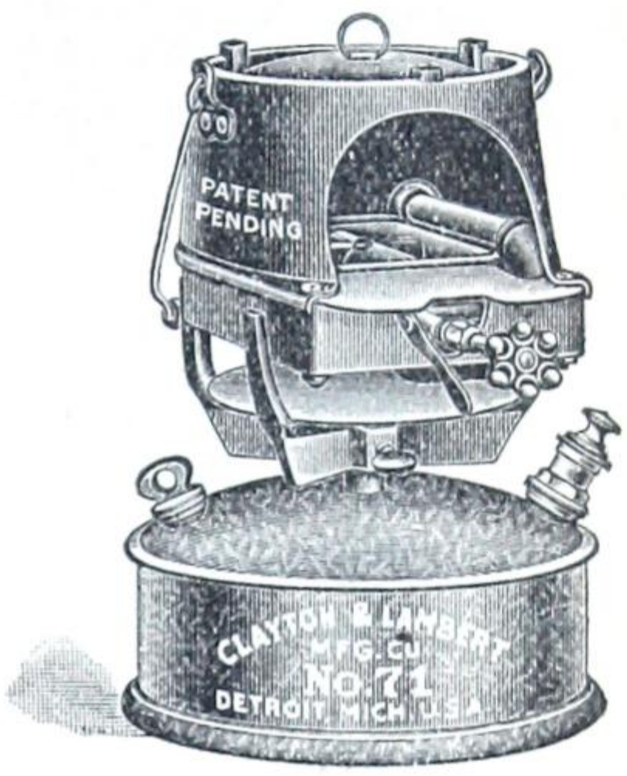


Fig. G2283.

No. 10.

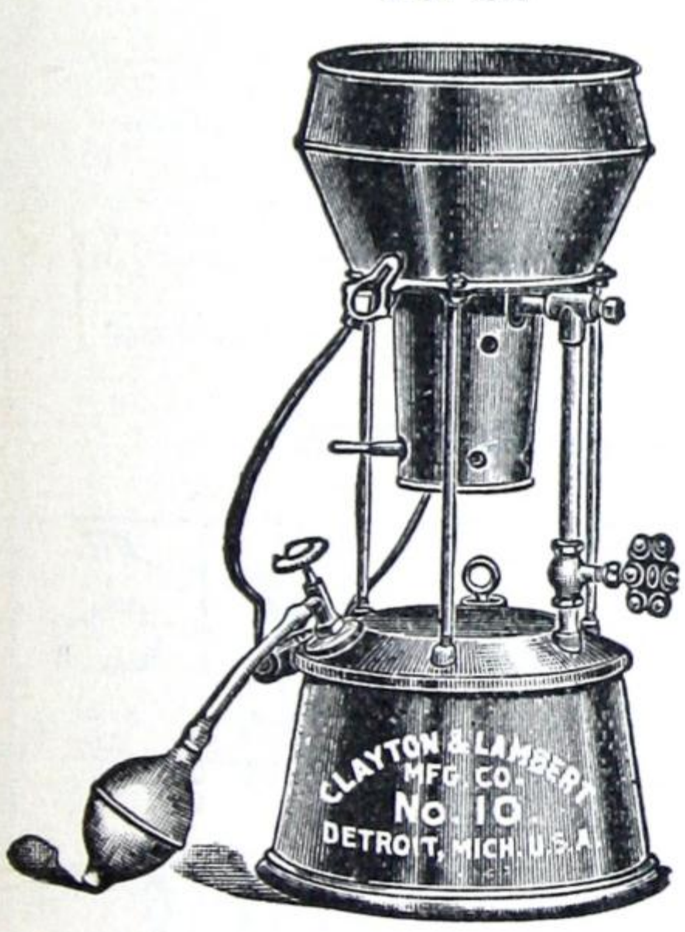


Fig. G2284.

No. 20.

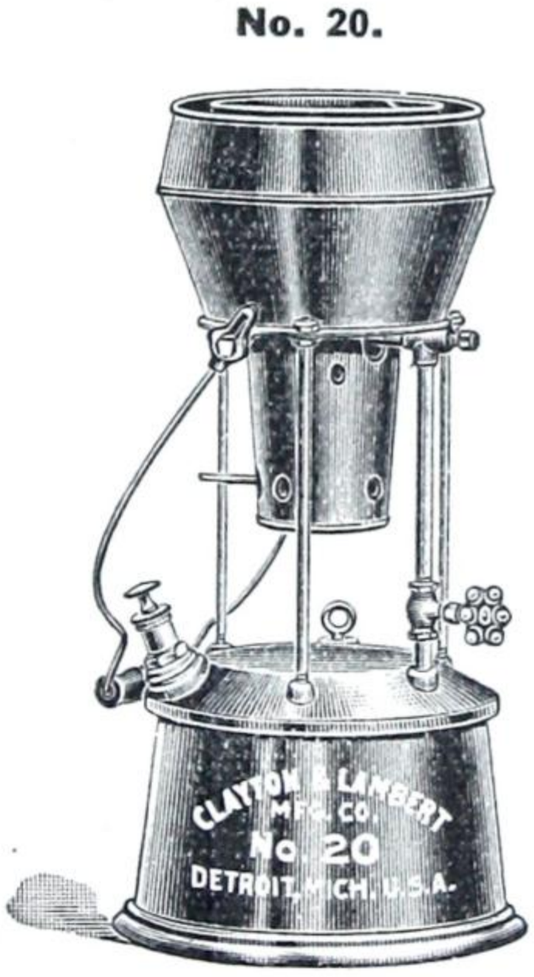


Fig. G2285.

No. 41.

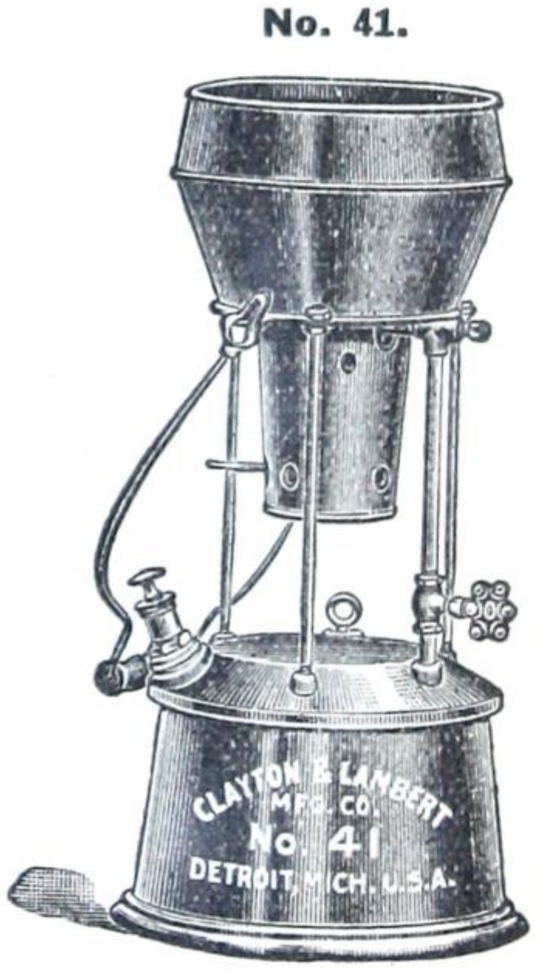


Fig. G2286.

NUMBERS.....	1	5	10	20	221	31	41	71	72
Capacity.....Pints	7	5	8	8	8	8	8	7	5
Price.....Each	$9.00	$6.75	$4.50	$5.00	$10.00	$4.00	$4.50	$9.00	$6.75

Note.—All Fire Pots are for Gasoline, except number 221 for Kerosene.
Numbers 10, 20, 31 and 41 will be furnished with one shield.
Number 31 is same as Number 41, except with Bulb instead of Pump.

JACOBSON'S GAS SOLDERING FURNACE.

No. 2.

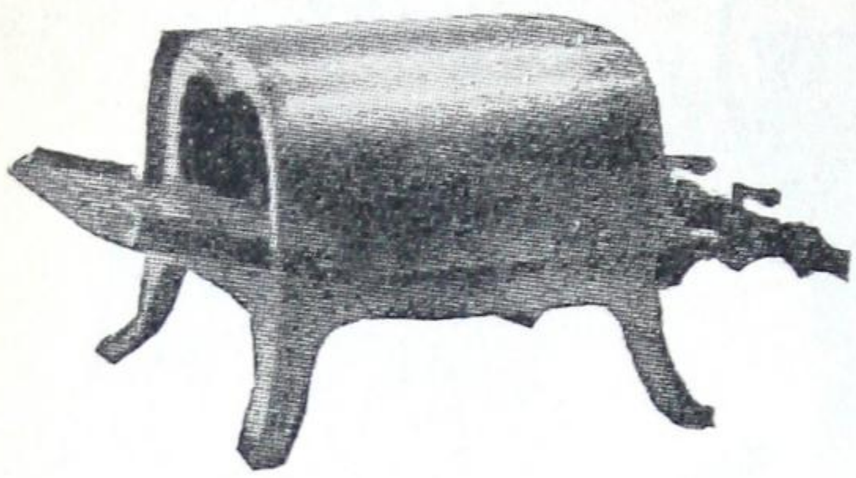


Fig. G2291.

No. 1. Single Burner	$4.00
No. 2. Double Burner	5.15

"B.B." AUTOMATIC GAS SOLDERING FURNACE.

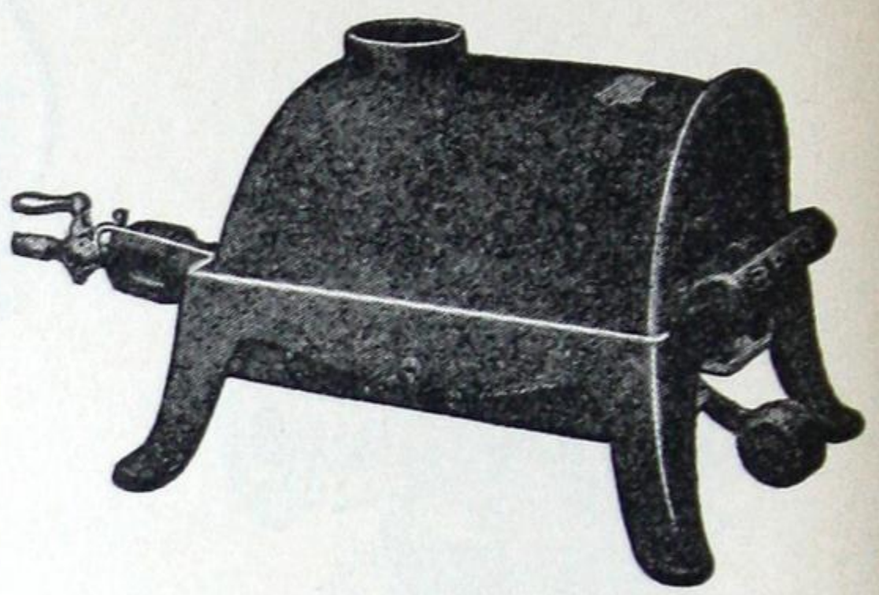


Fig. G2292.

Automatic Shut-off, Automatic Lighter and Patent Air Mixer for Natural or Artificial Gas.

Price, Each..... $5.00

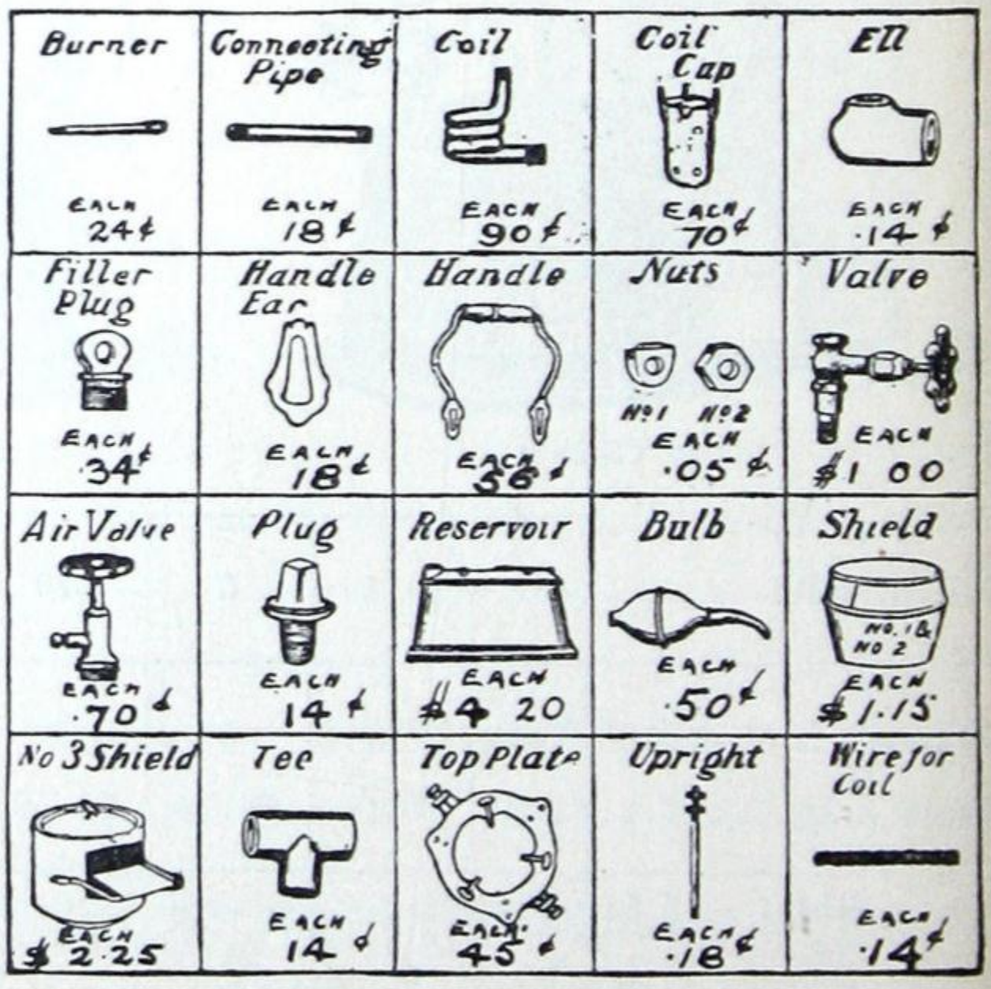
DANGLER FURNACE.
For Gasoline.



Fig. G2293.

Furnace (less Pot)	Each	$9.00
Burners	Each	4.50
Coils	Each	.80
Needles	Dozen	7.50
Cones	Dozen	2.50
Covers	Dozen	3.80
Wicks	Dozen	1.90
Air Valves	Dozen	9.80
Rubber Bulbs	Each	.50

FURNACE PARTS.



FURNACES FOR MELTING LEAD, BABBITT AND SOLDER.

TO BE USED FOR COAL, COKE OR WOOD.

No. 3.

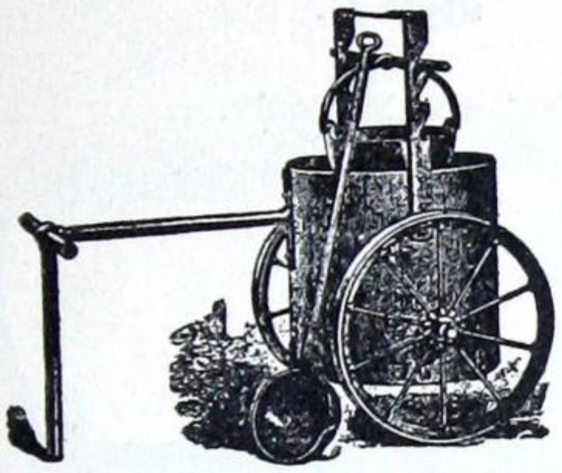


Fig. G2295.

No. 1.



Fig. G2296.

NUMBERS.....	1.a	1	2	3
Diameter.....Inches	18	18	20	24
Height.....Inches	24	24	28	28
Capacity of Lead.....Pounds	300	300	350	500
How mounted.....	Wheels	Feet	Feet	Wheels
Weight.....Pounds	300	165	280	600
Price.....Each	$60.00	$45.00	$60.00	$105.00

Each of the above is complete with Pot, Grate, Bar and Ladle.

CAST IRON FIRE POTS.



Fig. G2297.

With Rim.....Each $4.10
Without Rim..Each 2.70
If with Grate, add .62

TINSMITHS' TOOLS.

ADJUSTABLE BAR FOLDER.

Style A.

24″ and 36″ only.

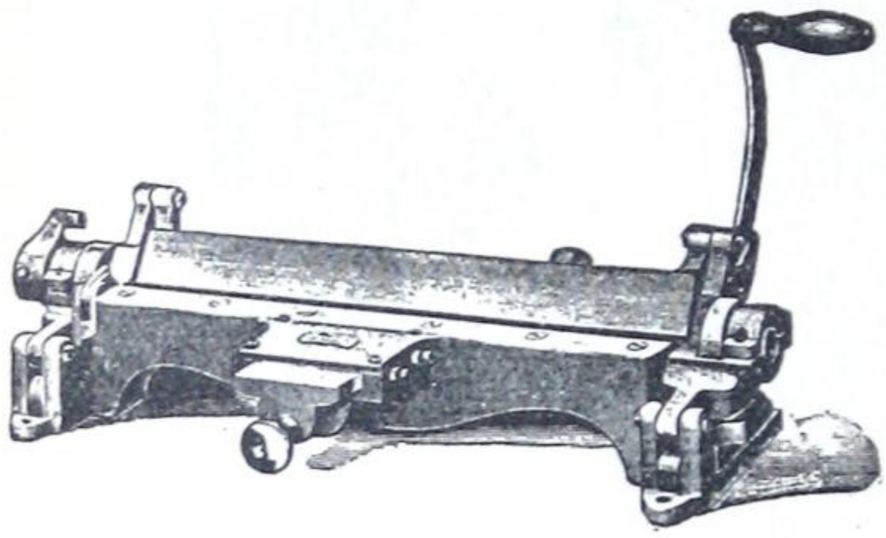


Fig. G2301.

Style C.

20″ and 30″ only.

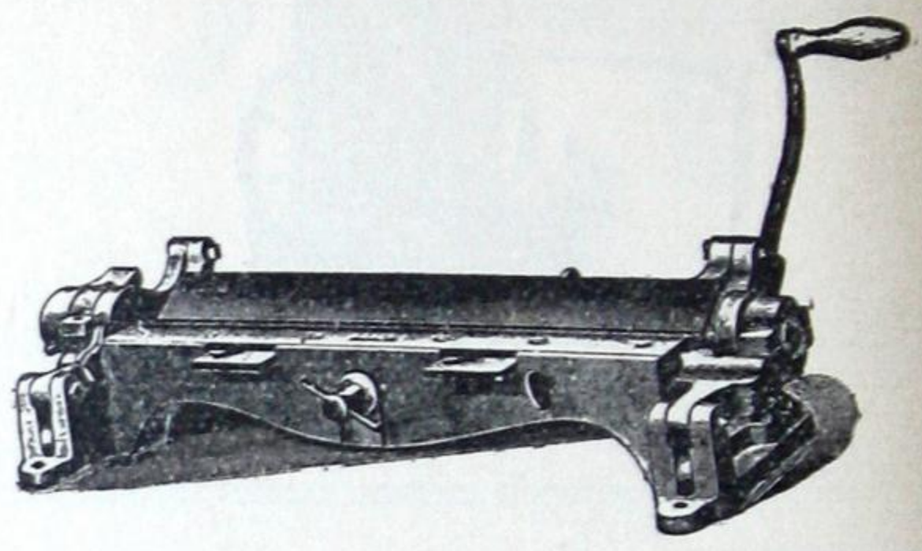


Fig. G2302.

No. 1, for Tin, 20 inch, folds edge 1 inch..... $34.00
No. 1½, for Tin, 24 inch, folds edge 1⅜ inch..... 44.50
No. 2, for Tin, 30 inch, folds edge 1⅜ inch..... 49.15
No. 3, for Tin, 36 inch, folds edge 1 inch..... 77.20

For 22 Gauge Iron and Lighter.

SHEET IRON FOLDER.

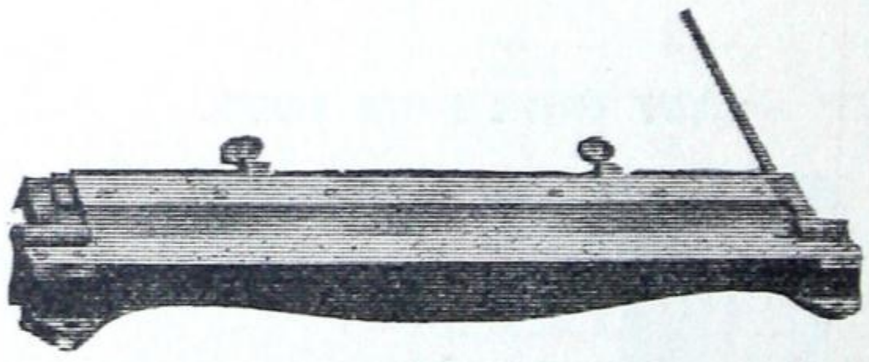


Fig. G2303.

	Length.	Folds.	Price.
No. 10A, For 22 Gauge and Lighter.....	31″	1/16″ to 1″	$21.85
" 10B, " " "	37″	1/4″ to 1″	36.40
" 10C, " " "	48″	1/4″ to 1″	54.60

TINSMITHS' TOOLS.

WRIGHT'S SHEET FOLDER.

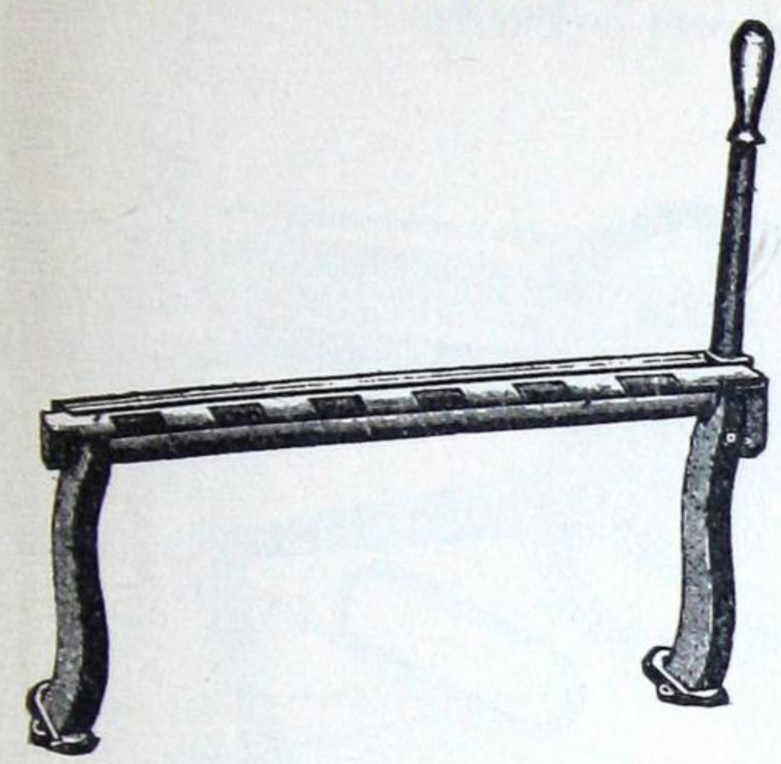


Fig. G2304.

	Length.	Folds.	Price.
No. 7, For Stove Pipes.	31″	$\frac{3}{8}$	$16.85
No. 7a " 20 Gauge Iron.	36″	$\frac{7}{16}$	62.00
No. 7b " 22 "	48″	$\frac{7}{16}$	72.00
No. 8 " " "	31″	$\frac{3}{16}$ to $\frac{3}{8}$	21.00
No. 9 " " "	37″	"	35.10

No. 11 STOVE PIPE FOLDER.
Steel Shaft. Rotary Motion.

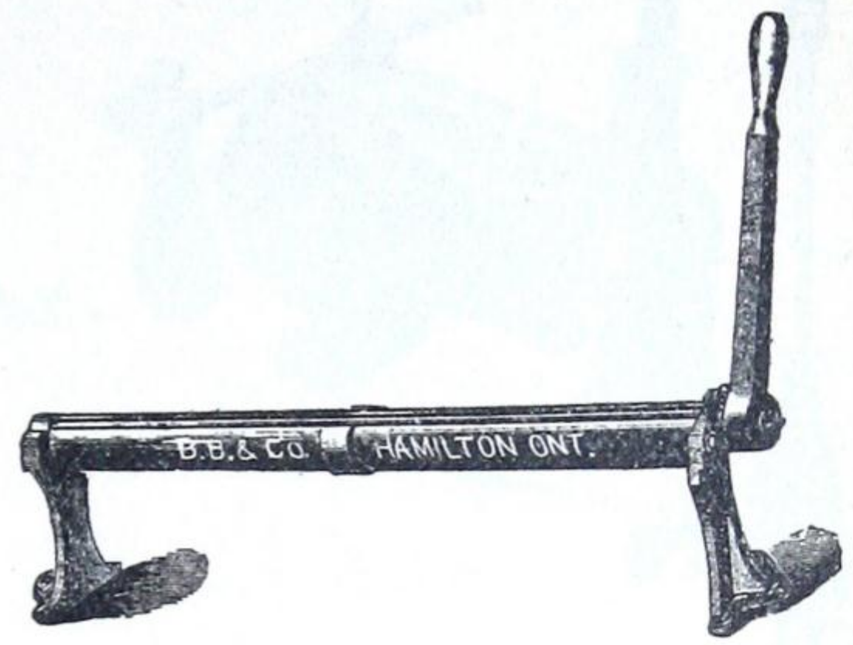


Fig. G2305.

No. 11, 31″..... $18.85

For 22 Gauge and Lighter.

SQUARE BOX AND SQUARE PIPE FOLDING MACHINE.

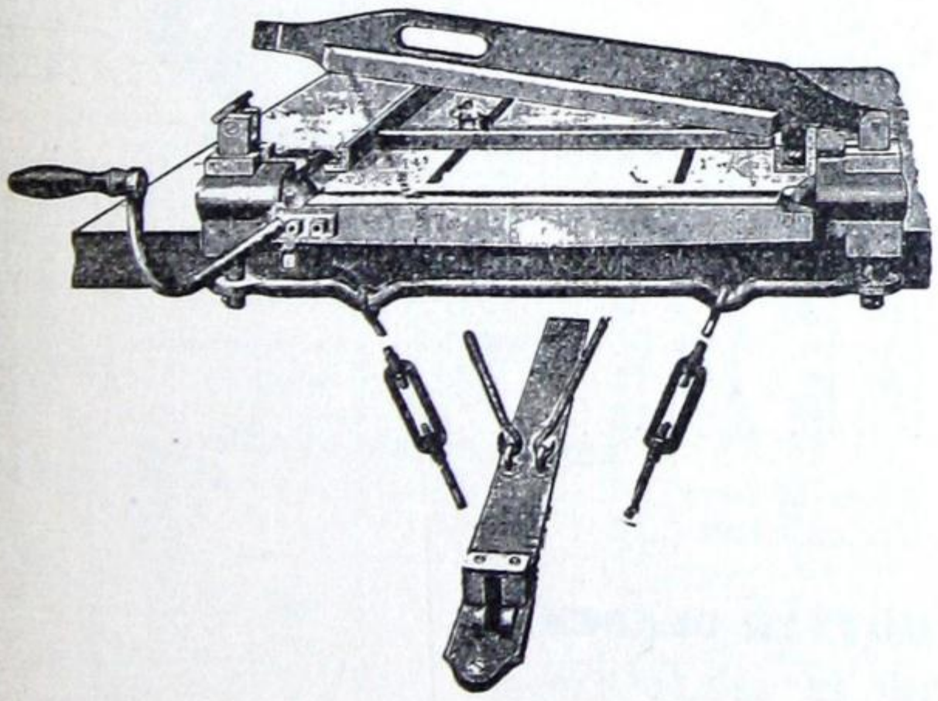


Fig. G2308.

No. 0, 30″ Long.....$64.35
No. 1, 20″ " 42.70
No. 2, 15″ " 32.75

For 22 Gauge and Lighter.

BREAD PAN FOLDER.

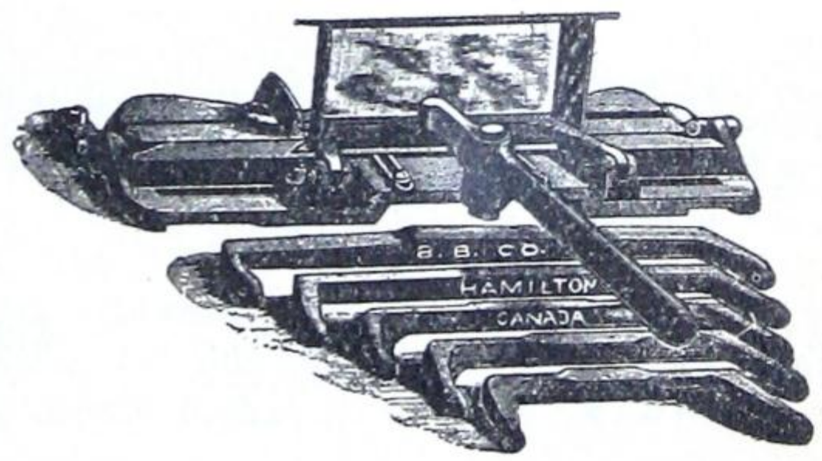


Fig. G2309.

No. 11, Folds 8½″, 10″, 11″, 13″, 15½″, 18″, and any width not over 18″ and 3″ deep.....$15.45
No. 12, Folds 11¼″, 13″, 15½″, 18″, 21″, 23″ and any width not over 23″ and 4″ deep..... 49.75

For 24 Gauge and Lighter.

TINSMITHS' TOOLS.

LIGHTNING ROD CUTTER.

No. 60. Nos. 61 and 62.

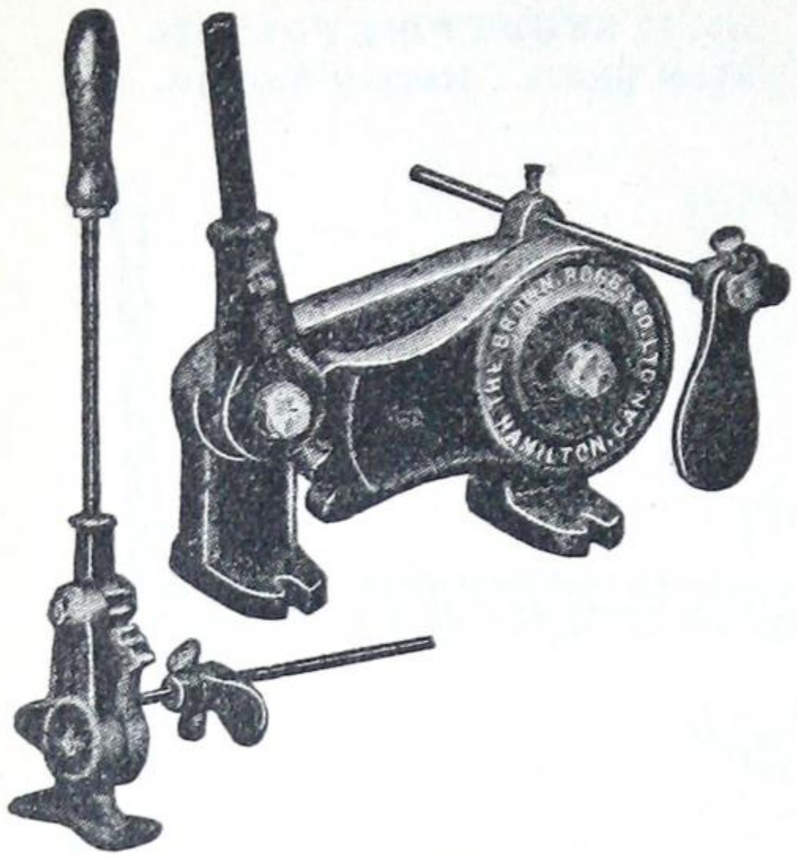


Fig. G2310.

								Price
No.	60	Cuts Rod up to		¼	inch.	Weight	5 lbs.	$3.75
"	61	"	"	"	⅝	"	39 "	11.00
"	62	"	"	"	⅞	"	90 "	18.00

IMPROVED GUTTER BEADERS.

Opens out to remove work.

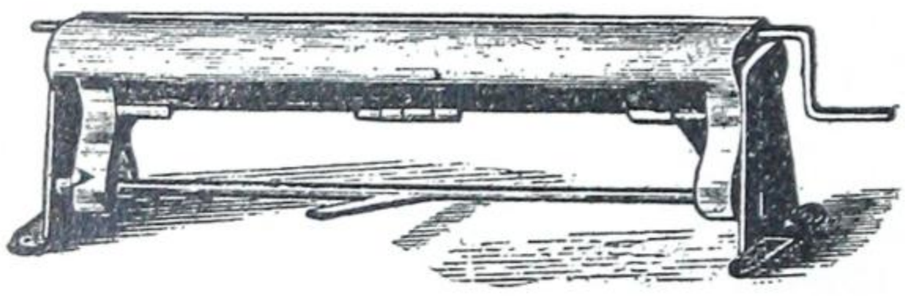


Fig. G2314.

No. 2" 31" Complete with ½" Steel Rod.....$12.90
No. 2, 21" " " " 9.00

For 26 Gauge and Lighter.

BENCH PLATE.

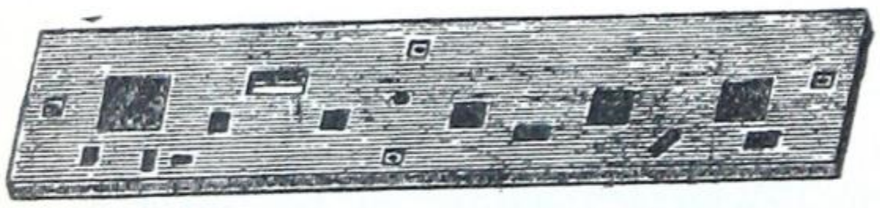


Fig. G2316.

No. 0. 48 x 12 inches.....$10.60
No. 1. 37 x 8 " 5.20
No. 2. 30 x 8 " 3.85

OVAL WIRE HANDLE FORMER.

No. 8.

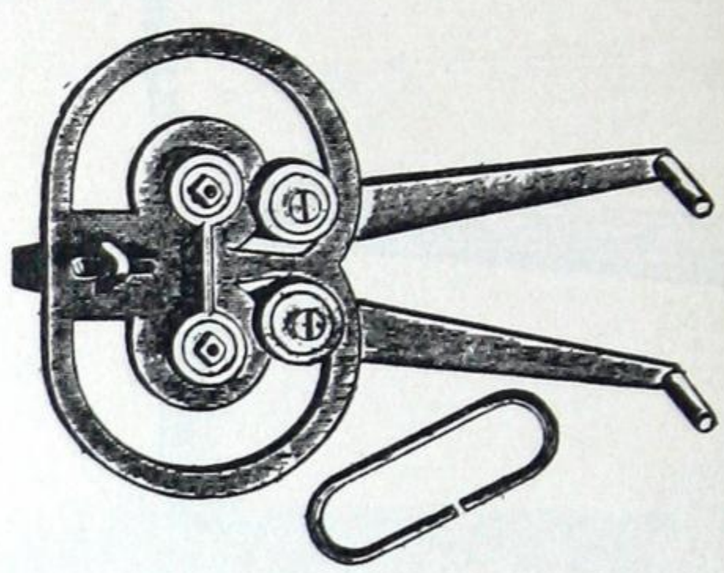
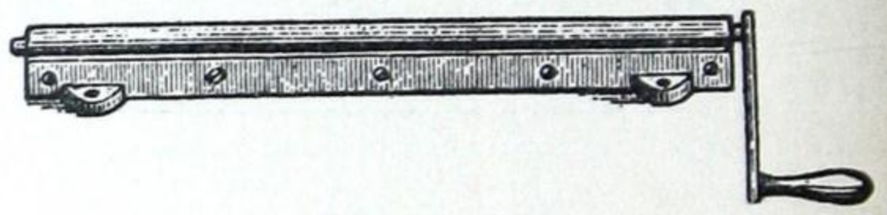


Fig. G2312.

Can be adjusted from 3½" to 4"..... $8.20

IRON BOTTOM GUTTER BEADER.

Work draws out Endwise.



For 24 Gauge and Lighter.

Fig. G2315.

No. 3C,	with Steel Rod	½" x 36".....	$9.00
No. 3D	" " "	⅝" x 36".....	9.00
No. 3E	" " "	½" x 31".....	7.75
No. 3F	" " "	⅝" x 31".....	7.75
No. 4	" " "	½" x 21".....	5.20
No. 5	" " "	7/16" x 15".....	4.50

STEEL GUTTER RODS.

No. 10,	⅝" x 10 feet.....	$12.90
No. 11,	⅝" x 8 "	10.30
No. 12,	⅝" x 6 "	7.75
No. 13,	½" x 3 "	4.50
No. 14,	½" x 31 inches.....	3.85
No. 15,	½" x 21 "	2.60
No. 16,	7/16" x 15 "	1.90

Any size made to order.

4 feet or over.....$1.30 per foot
Under 4 feet..... 1.55 " "

No. 15. 8 FT. GUTTER BEADER.

Including Wood Forms for 10", 12" and 14" Trough



Fig. G2319.

		Extra Forms.
No. 15,	8 feet.....$61.00	Each $3.60
No. 16,	10 " 68.60	" 4.20

TINSMITHS' TOOLS.

HEAVY SLIP ROLL FORMER.
With Two Handles.

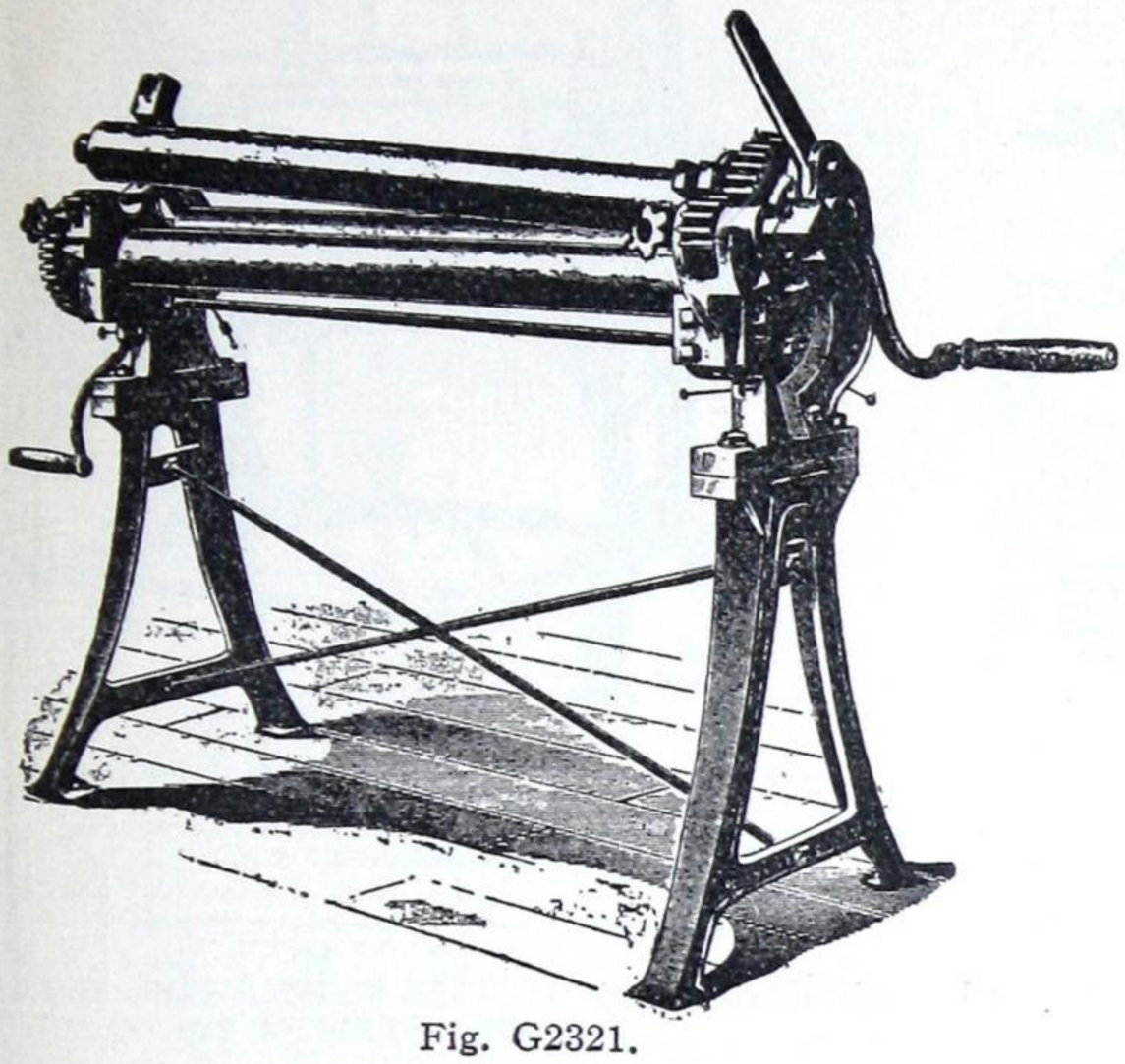


Fig. G2321.

No.	Dia. of Rolls.	Length of Rolls.	Gauge.	Price Steel Rolls without Legs.	
				Hand	Power
				$ c.	$ c.
0000	4½″	48″	12	260.00	307.95
000	4″	48″	14	187.00	225.30
00	4″	37″	12	170.00	208.30
0	3″	37″	14	101.00	131.60
1	3″	31″	12	88.50	119.10
1½A	2½″	31″	16	66.70	89.70
1½B	2½″	37″	17	79.00	102.00

Extra for Legs .....{4½″ Rolls..$26.75; 4″ " .. 19.20; 3″&2½″.... 15.30

Nos. 0000, 000, 00, 0, and 1 have Compound Gear at both ends.
Nos. 1½A and 1½B are Direct Geared.
Nos. 1½A and 1½B Compounded at one end, $10.60 extra.

STOVE PIPE FORMER.

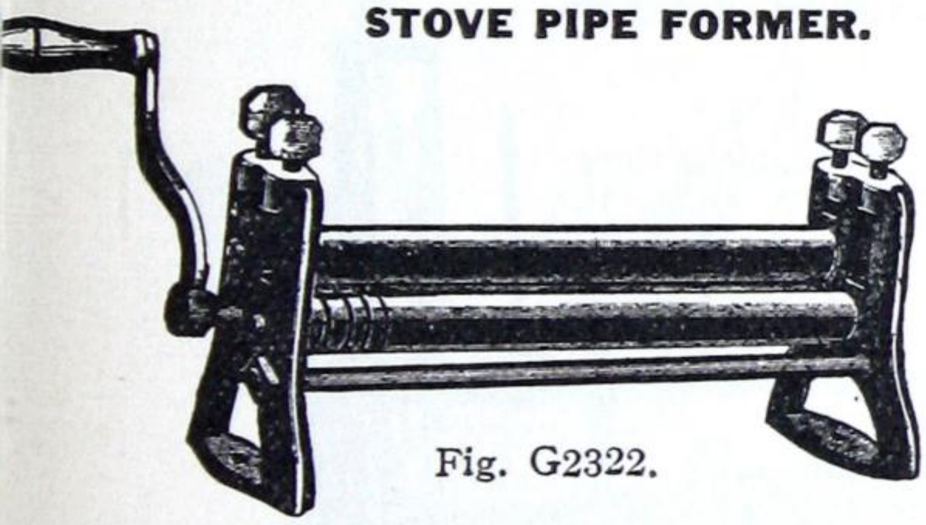


Fig. G2322.

No.	For	Dia. of Rolls.	Length of Rolls.	Price Steel Rolls.
1½C	17 Gauge	2½″	37″	$68.90
2	20 "	2″	37″	31.60
3	18 "	2″	31″	24.60
4	24 "	1¾″	31″	23.40
5	24 "	1½″	21″	14.80
6	24 "	1½″	16″	13.50
7	I. C. Tin	1″	12″	11.70

WITH SLIP ROLLER.

5½	24 Gauge	1½″	21″	$17.15
6½	24 "	1½″	16″	15.85
7½	I. C. Tin	1″	12″	14.00

SLIP ROLL FORMER.



Fig. G2323.

The back roll is moved by eccentrics instead of screws, and can be changed from the smallest circle to the passing of a straight sheet in an instant; the roll is set perfectly parallel by the scale on the ends of frame, without any adjusting whatever. It will do flaring work better than any other former made.

No.	For Gauge.	Dia. of Rolls.	Length of Rolls.	Price Steel Rolls.
8	20	2″	37″	$40.00
9	18	2″	31″	32.00

TINSMITHS' TOOLS.

FOOT SQUARING SHEARS, No. 1.



Fig. G2326.

Number.....	00	0	1	2
Length Cut, Inches.	48	36	30	20
Gauge of Iron	18	18	20	20
Price, less Back Table	150.00	88.00	59.40	50.00
Extra for Back Table	3 20	2.00	1.60	1.60

FOOT GAP SQUARING AND SLITTING SHEARS, No. 1.



Fig. G2327.

For 16 Gauge and Lighter.

These Shears are provided with Drop Leaf Tables at each end, and equipped with Lever Hold down and Assistant Lever. Price includes full set of gauges (Side, Back and Bevel).

Number.....	1	2	3	4
Cut, Inches.....	30	30	36	36
Gap, Inches.....	15	18	15	18
Price.....	$192.00	211.00	222.00	246.00

CORNICE MAKERS' SQUARING SHEARS

8 Foot.

Special Back Gauge can be supplied working parallel with knives for either end with Small Handle.



Fig. G2328.

Complete with full set of Frame, Bevel, Back and Side Gauges, and equipped with Lever Hold-down. Suitable for No. 18 Gauge and Lighter.

6 feet.....	about	1800 lbs.	$375.00
8 "	"	3000 lbs.	530.00
10 " with Centre Leg.....	"	4000 lbs.	696.00

Graduated Brass Scales are inserted in Bed of all Squaring Shears.

TINSMITHS' TOOLS.

CIRCULAR SHEARS. No. 1 (Newton's).

With 2 pair Discs, 2¼″ and 5¾″ diam.
Cuts inches 2¾″ to 14″ diam. 24 Gauge

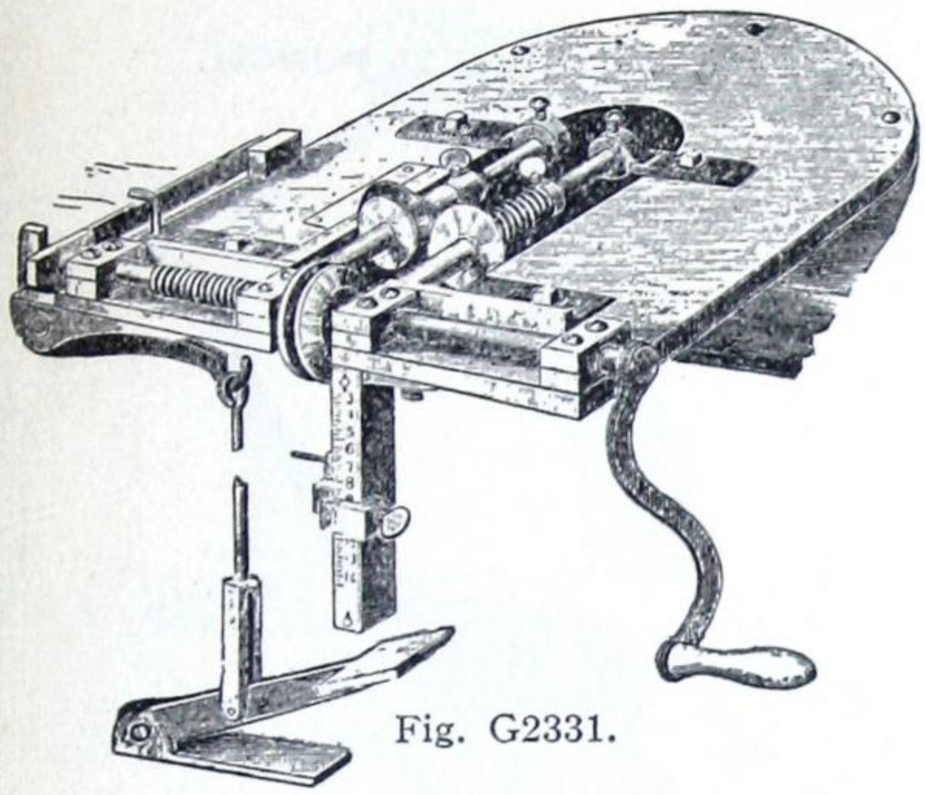


Fig. G2331.

Price		$28.35
Extra Discs	Per Pair	2.60
" Cutters	"	5.90

CIRCULAR SHEARS.

No. 2 (Waugh's).

Cuts Circle 2¼″ to 19″.

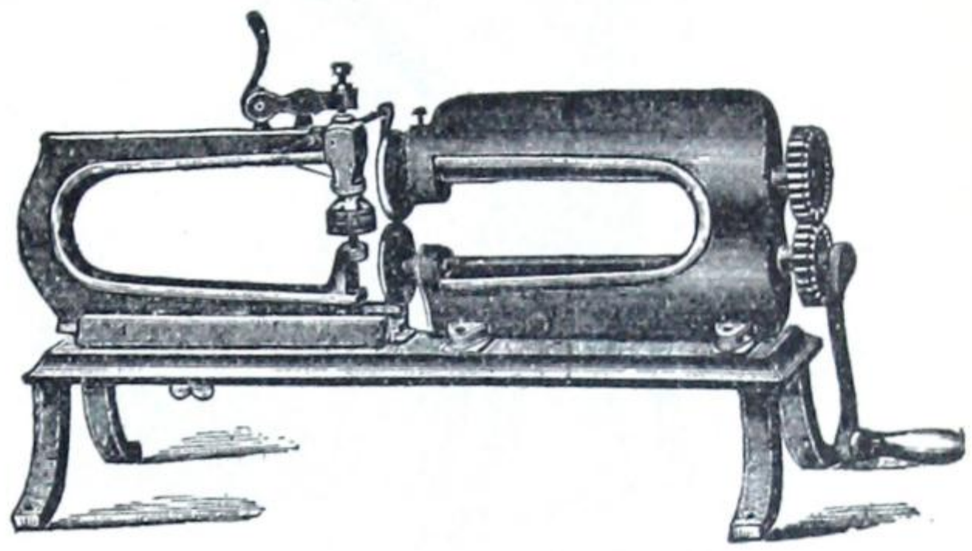


Fig. G2332.

No. 2, Cuts Circles 2¼″ to 19″ for 22 Gauge
Price.....$30.50

No. 3, Cuts Circles 3″ to 41″ for 20 Gauge
Price..... 58.50

COMBINED LEVER PUNCH AND SLITTING SHEARS. No. 10.

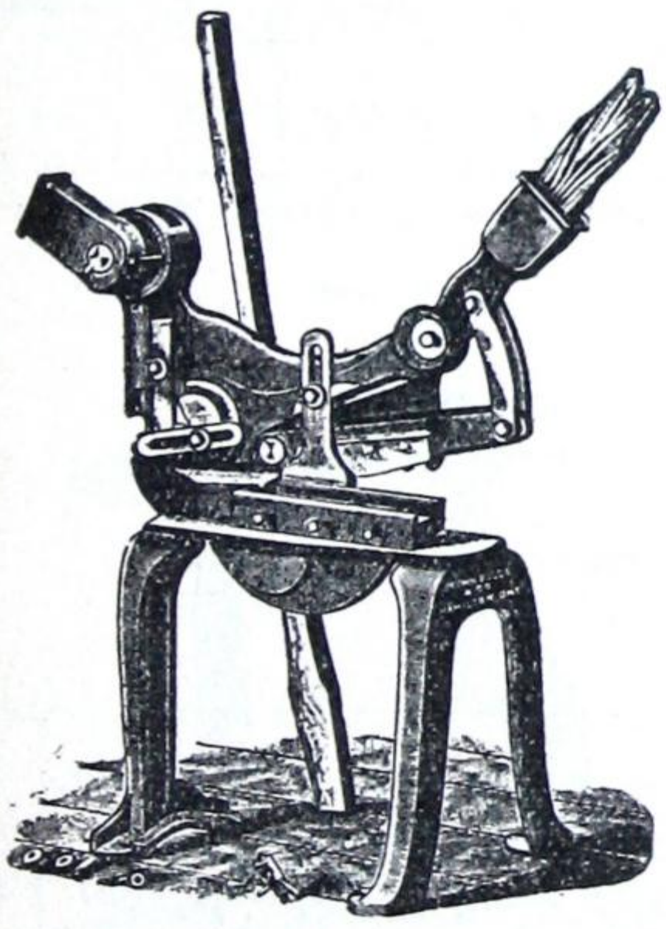


Fig. G2336.

No.	Length Blade.	Depth Throat.	Weight about.	Price.
10	8″	4″	260 lbs.	$58.00
10	8″	5½″	375 lbs.	65.00

Capacity No. 10 Shears, No. 12 Sheet Iron, ¼ x 2 or ⅜ Rd. Bar Iron and Punch 5/16″ Hole in ¼″ Iron.
Capacity No. 11 Shears, No. 10 Sheet Iron and Punch ⅜″ Hole in ¼″ Iron.

No. 2 B. PUNCH AND SHEARS.



Fig. G2337.

No.	Depth Throat.	Weight.	Price.
2 B.	3¾″	125	$50.00

Capacity.—Cuts Flat Bars 2 x 5/16 or ⅝ Round and Punches ¼ Hole in ¼ Iron.
Size of Punches furnished ⅛, 3/16 and ¼.

TINNERS' TOOLS.

No. 0 SHEARS.

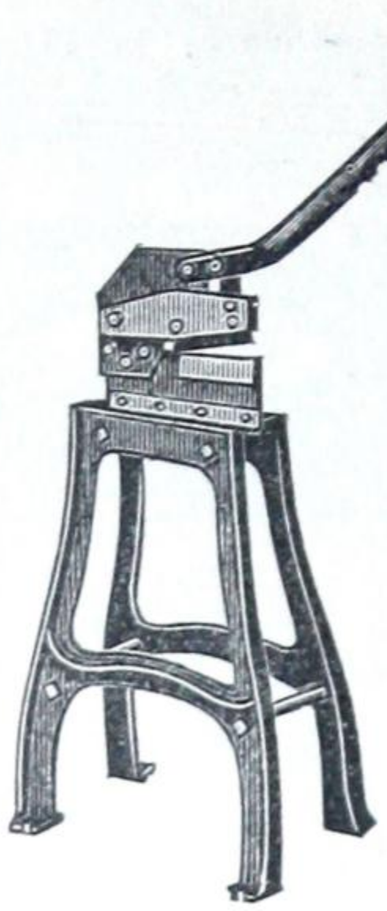


Fig. G2338.

No.	Capacity Sheet Metal	Capacity Bar Iron.	Weight	Height to Jaws	Price
0	20 gauge	$\frac{1}{16}$ x 3 in.	50 lbs.	26½ in.	$20.00

No. 11 PUNCH.

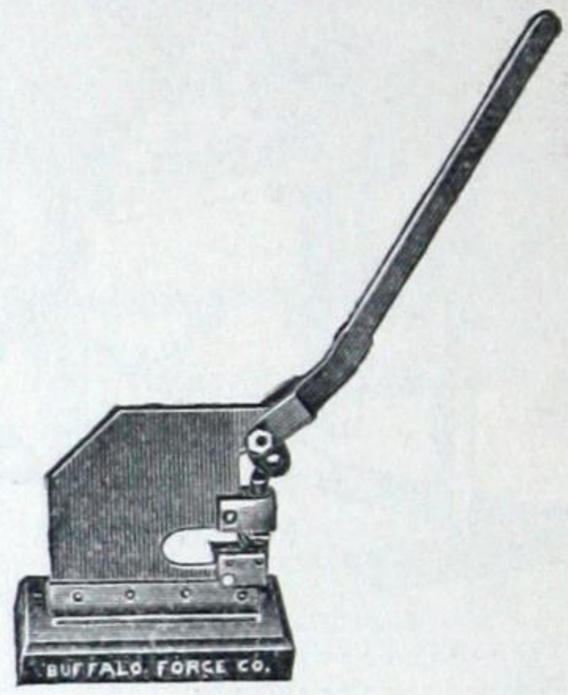


Fig. G2339.

No.	Style	Capacity	Punches Furnished	Weight lbs.	Depth Throat	Price
11	Front Lever No Stand	$\frac{1}{8}$ x $\frac{1}{8}$	$\frac{3}{32}$ & $\frac{1}{8}$	26	4	$15.00

LEVER PUNCHING PRESS.

Nos. 71 and 70.

With Adjustable Gauge.

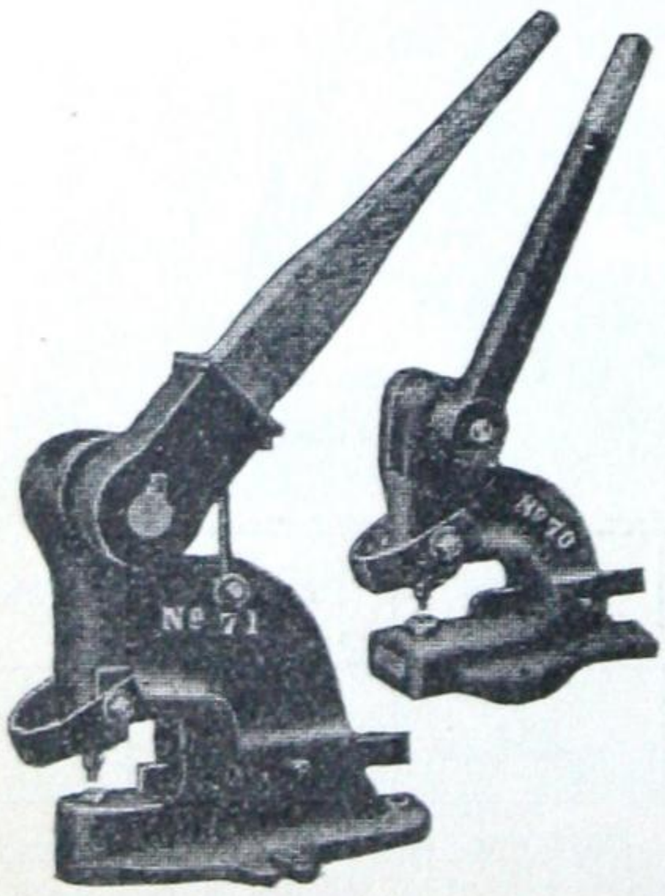


Fig. G2340.

No.	Size of Punches	Depth of Throat.	Weight.	Price.
70	$\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$"	4½"	50 lbs.	$16.50
71	$\frac{3}{16}$, $\frac{1}{4}$ & $\frac{5}{16}$	4"	120 lbs.	28.70

Capacity No. 70, $\frac{1}{4}$" Hole in $\frac{1}{8}$ Iron.
" " 71, $\frac{1}{4}$" " $\frac{1}{4}$" "
or $\frac{5}{16}$ Hole in No. 8 Iron.

DOUBLE SEAMING MACHINE.

No. 1.

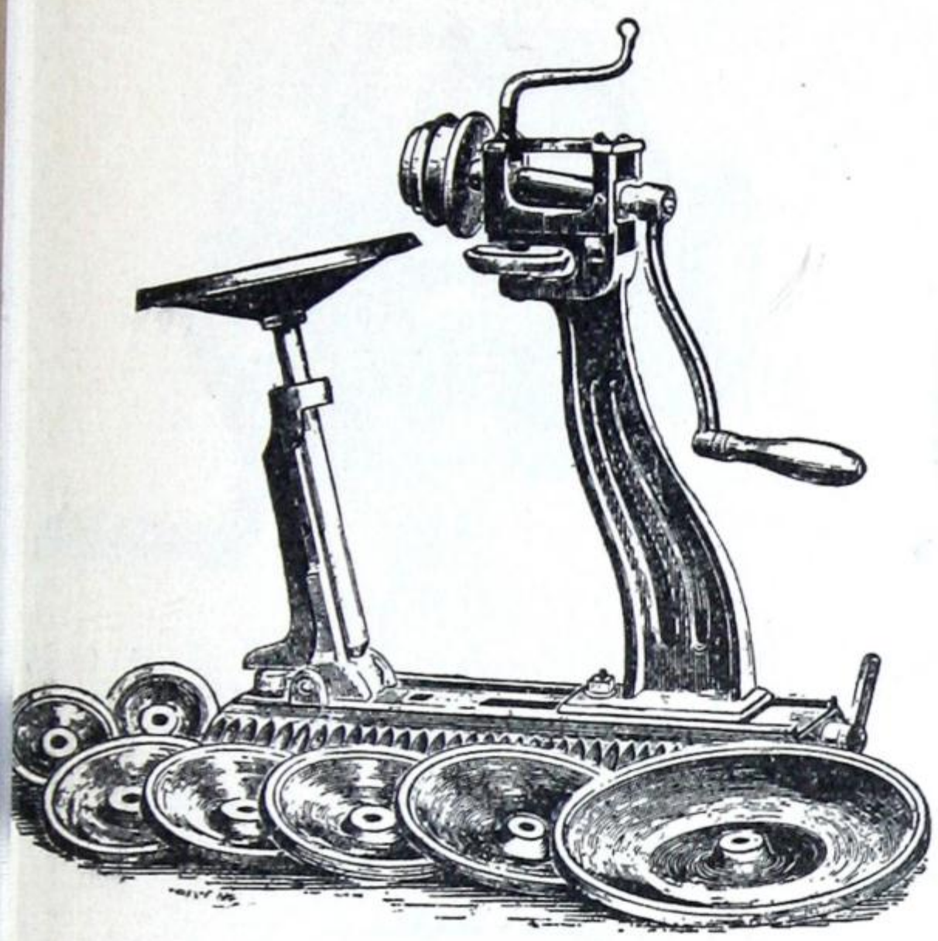


Fig. G2341.

Price with Setting Down Attachment.....$34.75
" without " " " 28.10

For No. 26 Gauge and Lighter.

DOUBLE SEAMING MACHINE.

No. 2.

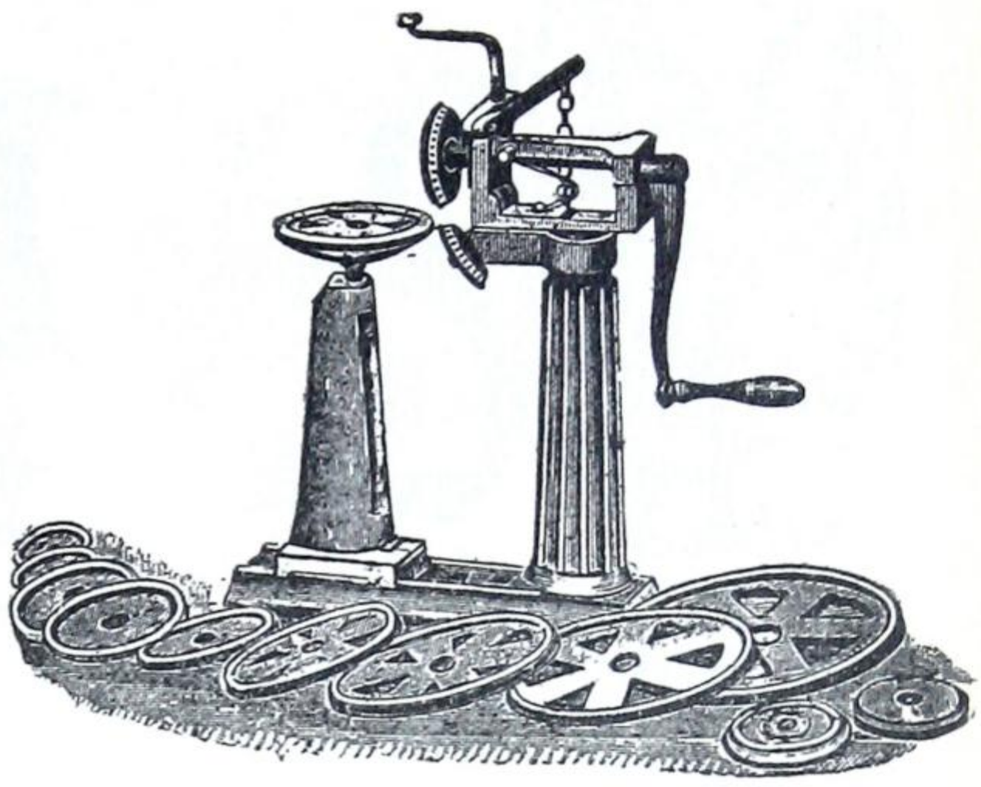


Fig. G2342.

Price with Deflecting Head and Setting Down Attachment.....$41.55
" without Setting Down Attachment.. 31.00

For No. 26 Gauge and Lighter.

DOUBLE SEAMING MACHINE.

No. 3.

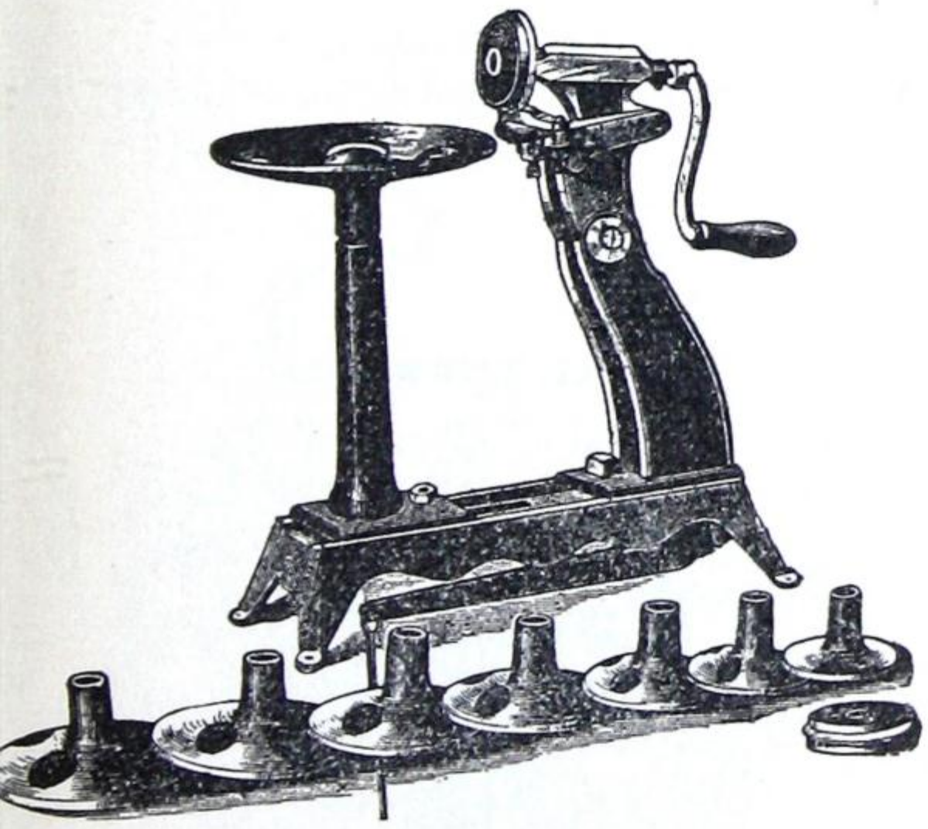


Fig. G2343.

Price with Setting Down Attachment.... $34.75
" without " " " 28.10

For No. 26 Gauge and Lighter.

DOUBLE SEAMING MACHINE.

No. 4.

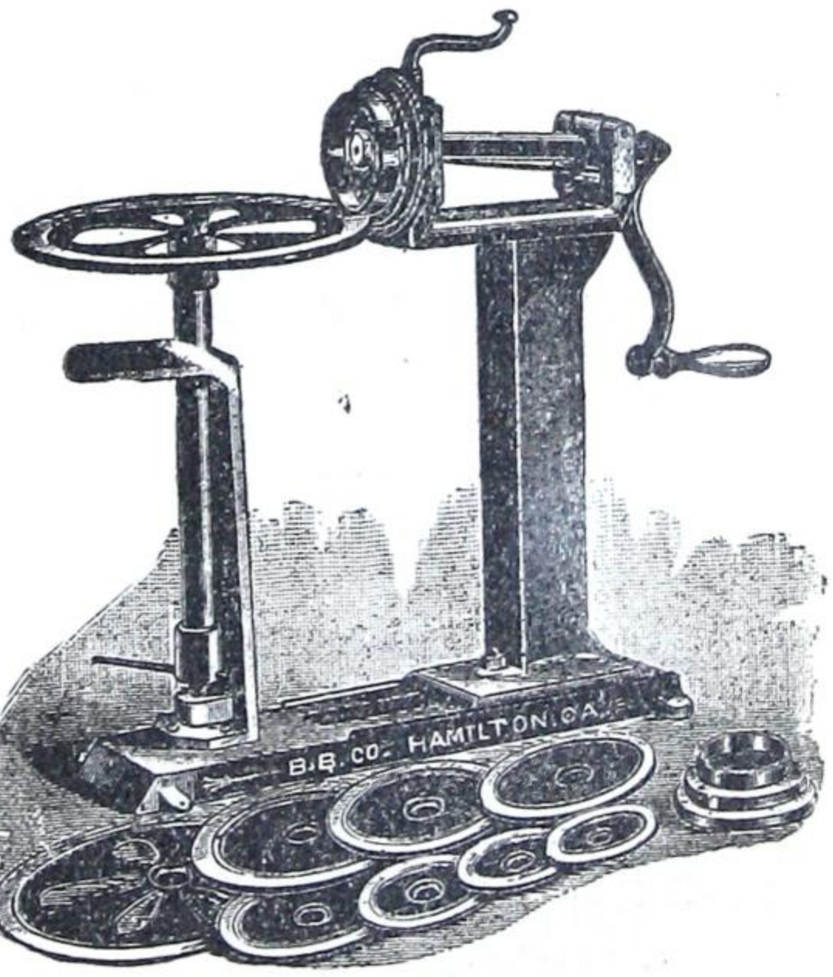


Fig. G2344.

Price.....$28.10

For No. 28 Gauge and Lighter.

WIRING.

ENCASED MACHINES.

PATENT STANDARD. For Wiring Machine.



Fig. G2347.
Each.....$1.20

SETTING DOWN.

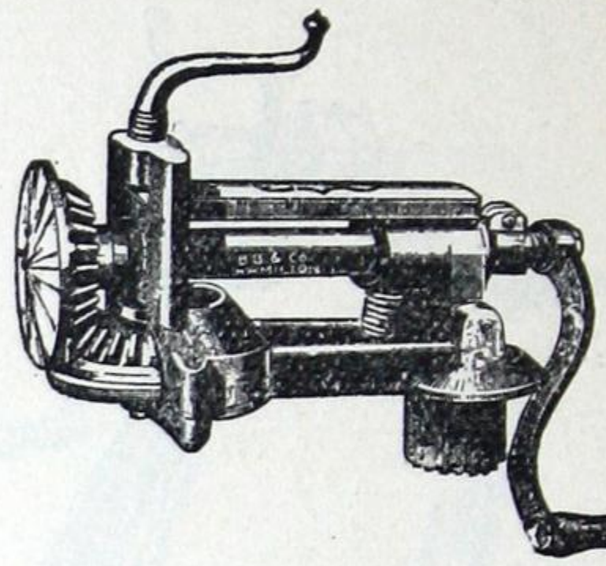


Fig. G2348.
Price with Standard.....$14.85

SMALL TURNER.

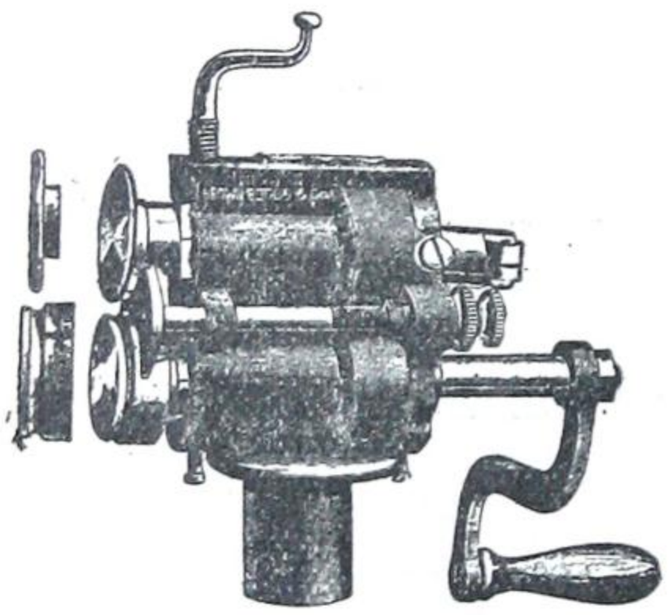


Fig. G2349.
Price with Standard.....$16.75

PATENT STANDARD. Ordinary.



Fig. G2350.
Each.....$1.20

LARGE TURNER.

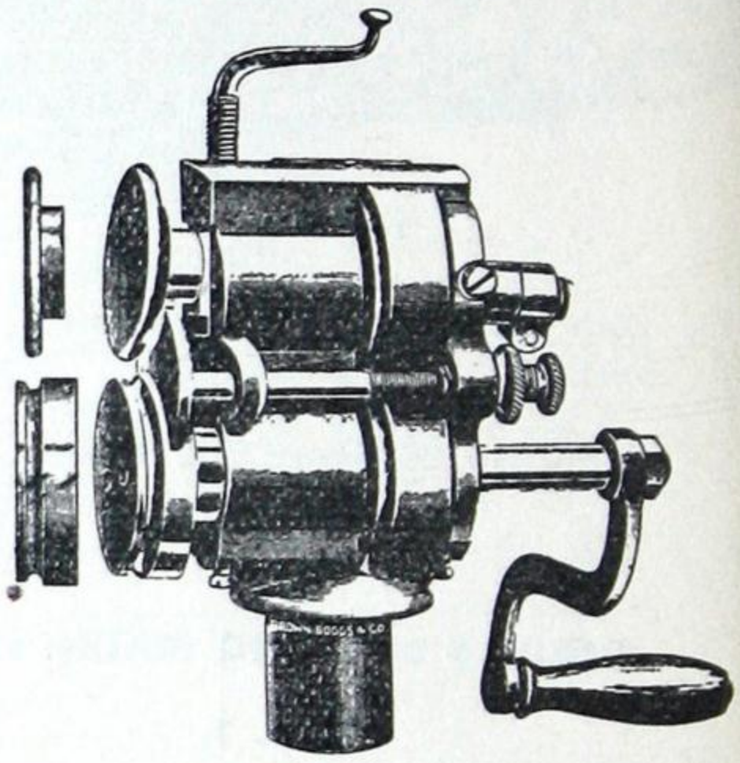


Fig. G2351.
Price with Standard.....$17.10

LARGE BURRING.

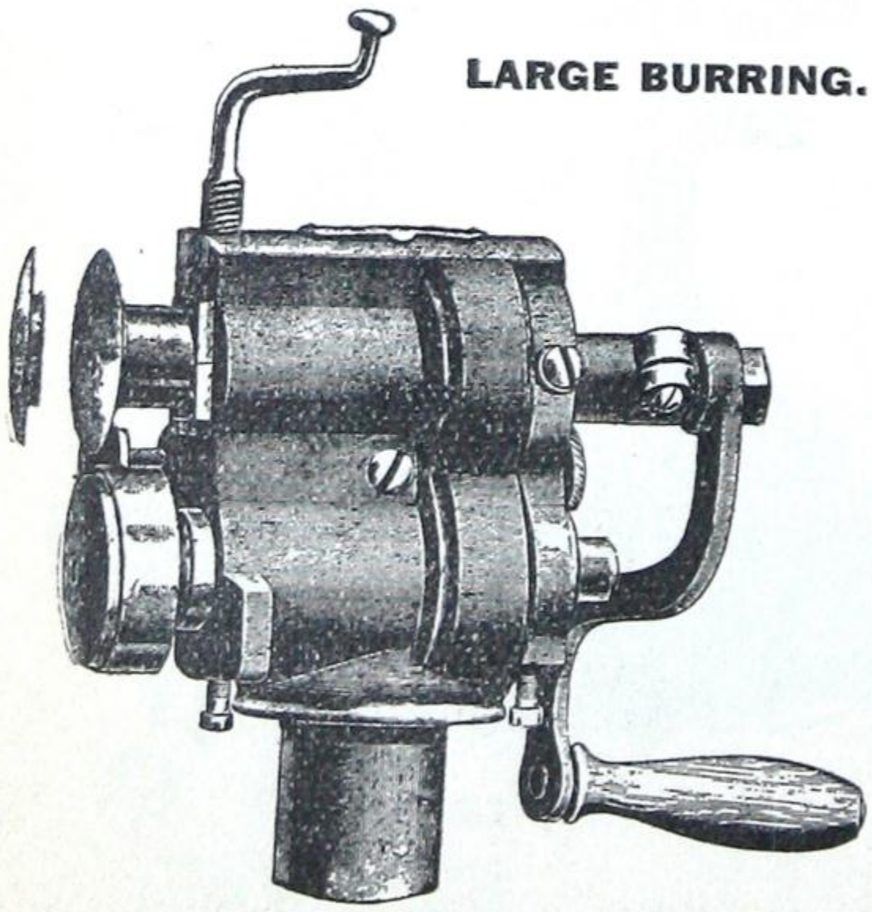


Fig. G2352.
Price with Standard.....$15.60

SMALL BURRING.

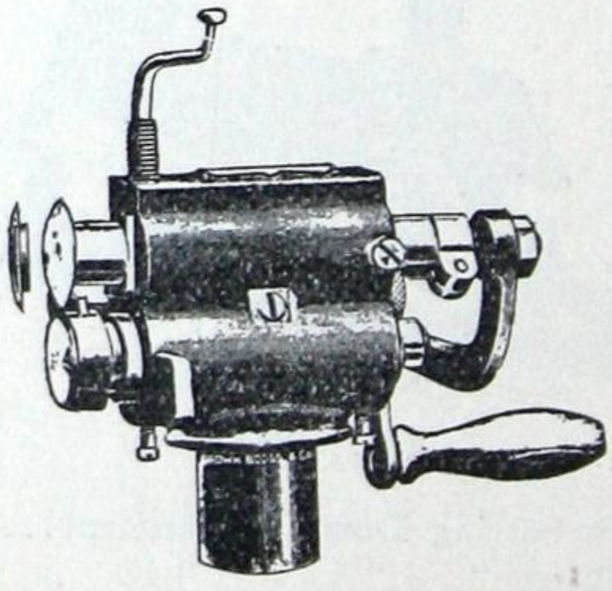


Fig. G2353.
Price with Standard.....$14.85

No. 1 MACHINES.

WIRING.

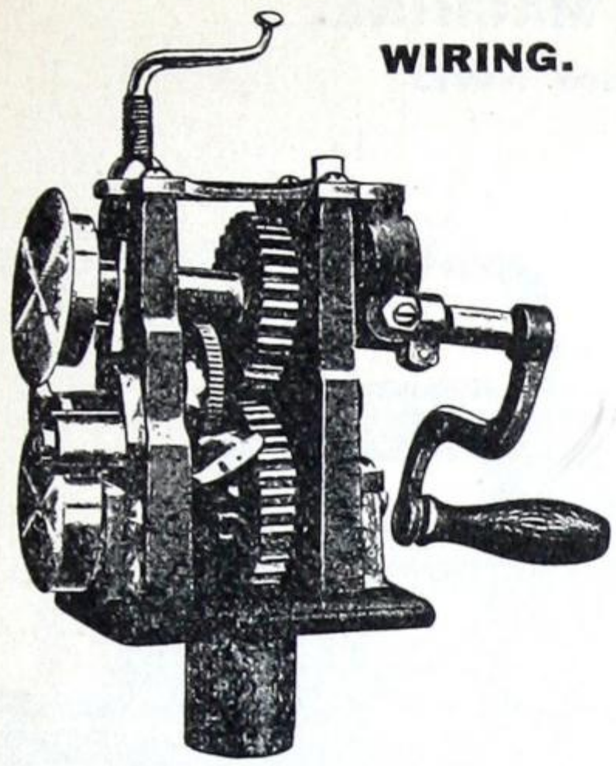


Fig. G2361.
Price with Standard..... $18.60

SETTING DOWN.

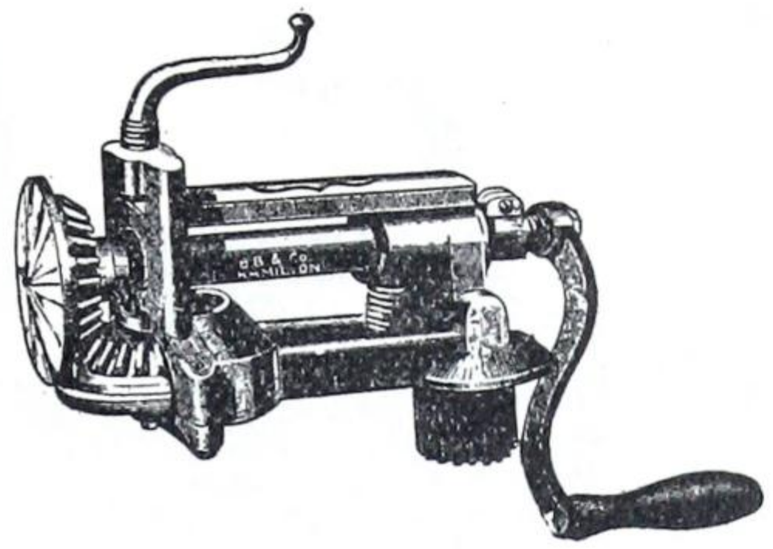


Fig. G2362.
Price with Standard.....$14.85

SMALL TURNER.

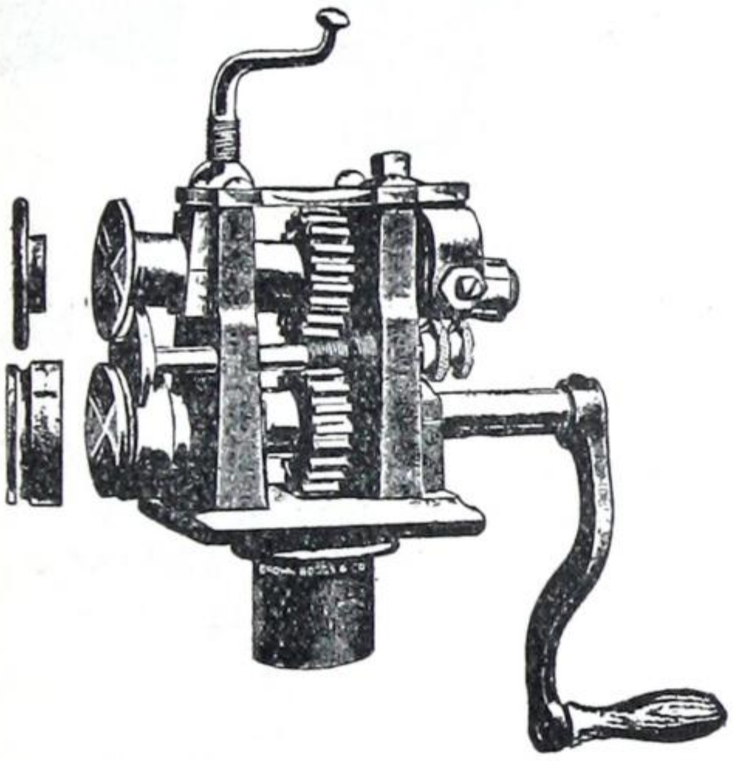


Fig. G2363.
Price with Standard.....$15.60

LARGE TURNER.

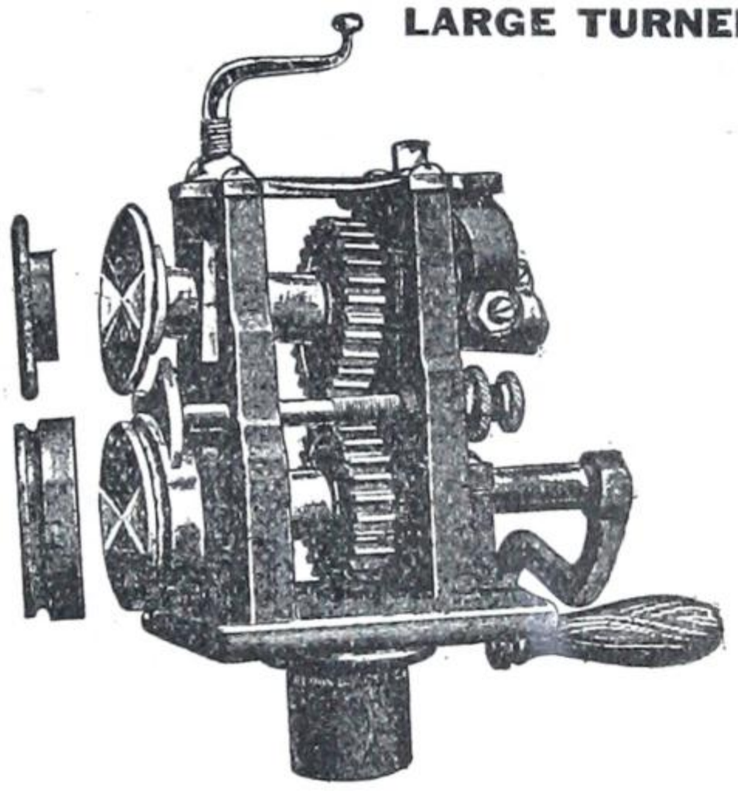


Fig. G2364.
Price with Standard.....$16.00

LARGE BURRING.

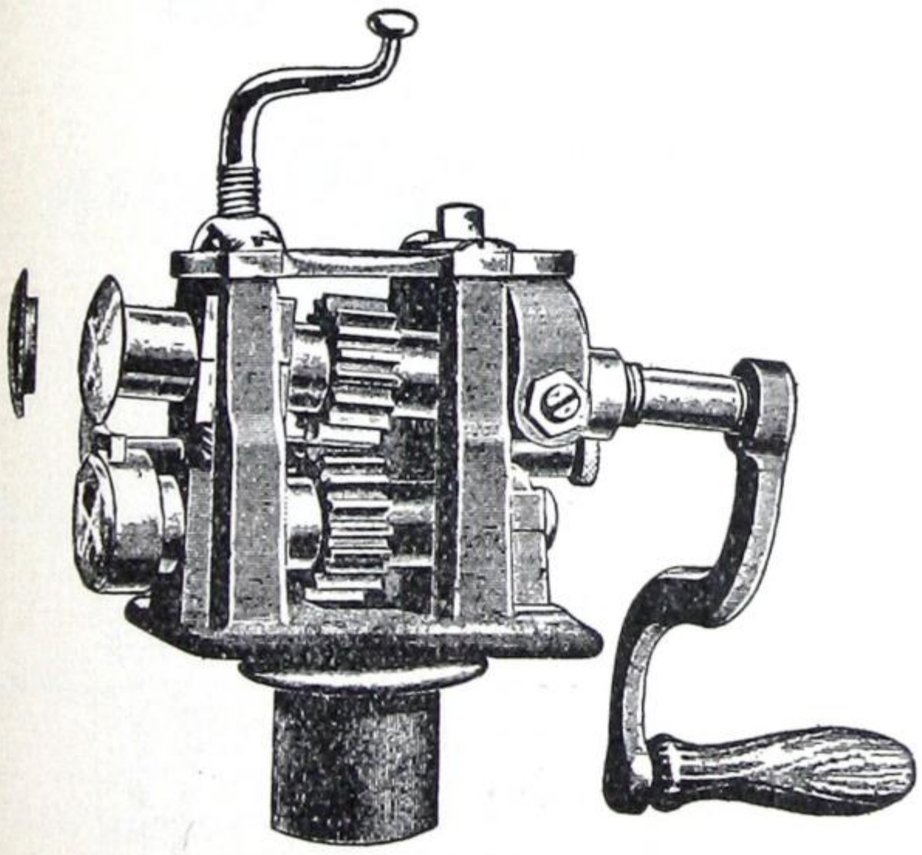


Fig. G2365.
Price with Standard.....$14.05

SMALL BURRING.

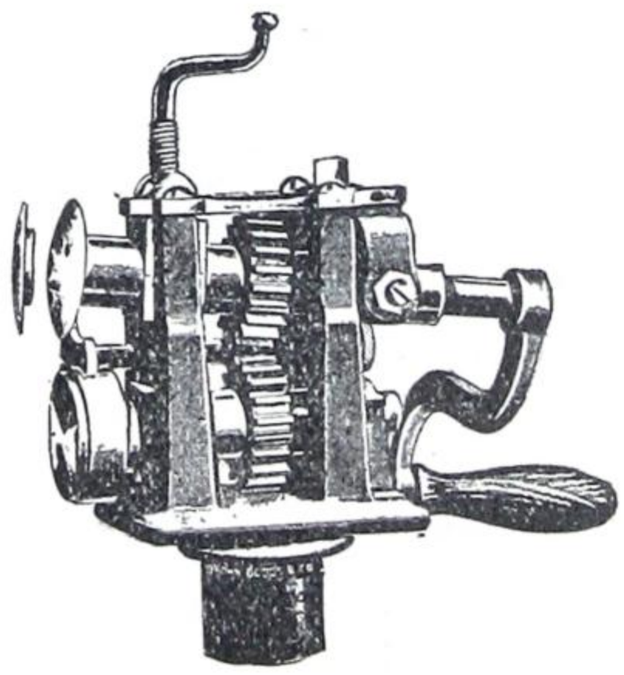


Fig. G2366.
Price with Standard.....$13.30

These Machines are supplied with Patent Standards. Figure G2347 or G2350.
Above Machines can also be supplied in Solid Frame. List Prices the same as No. 1 Machine.

ECLIPSE ELBOW EDGING MACHINE.

Specially Valuable for Furnace Work.

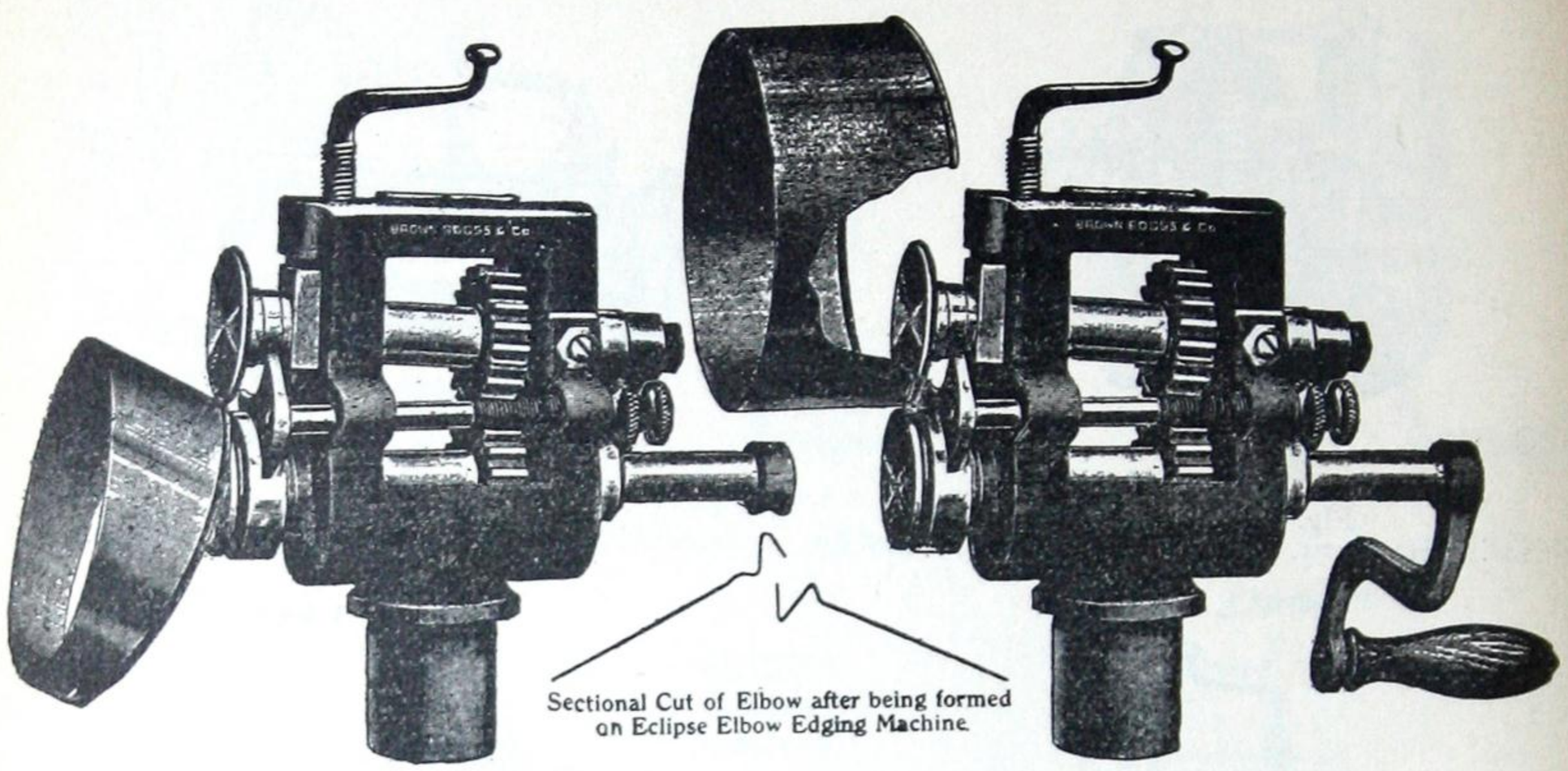


Fig. G2371.

Price, with Patent Stand..... $15.60
Extra Heads.....Per Pair 4.70

For No. 24 Gauge and Lighter.

BEADING MACHINE.

Nos. 1, 2 and 3.
COMPOUND GEARING.
20 Gauge Iron.

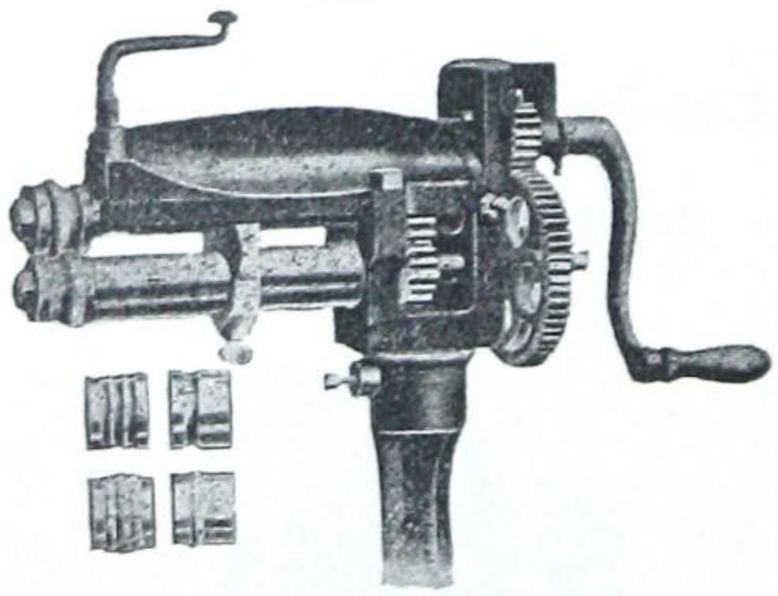


Fig. G2374.

Nos. 4 and 5.
DIRECT ACTING.
26 Gauge Iron.

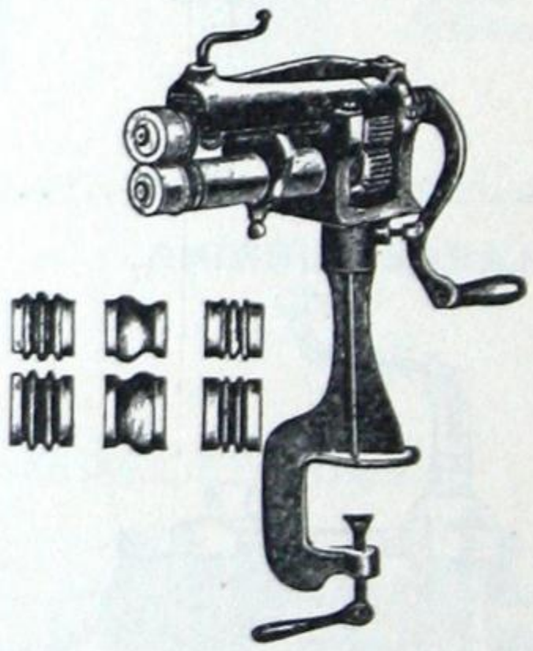


Fig. G2375.

No.	Depth.	Pairs Rollers.	Price.	Extra Beads, per Pair.
1	13″	3	$41.55	$6.65
2	10″	3	40.25	6.65
3	7½″	3	33.80	5.25
4	6″	4	23.15	4.40
5	4″	5	21.60	3.55

BEADING MACHINE.

STOVE PIPE CRIMPER.

No. 8.

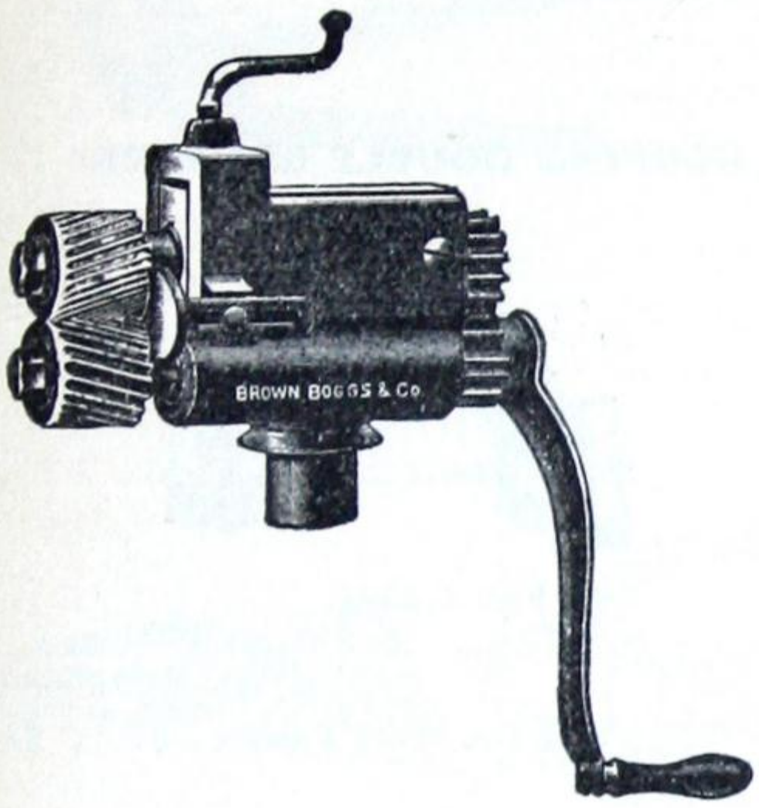


Fig. G2376.

Price with Patent Stand.....$12.20
Extra Crimping Beads.....Per Pair 3.50

CRIMPER AND BEADER.

No. 9.

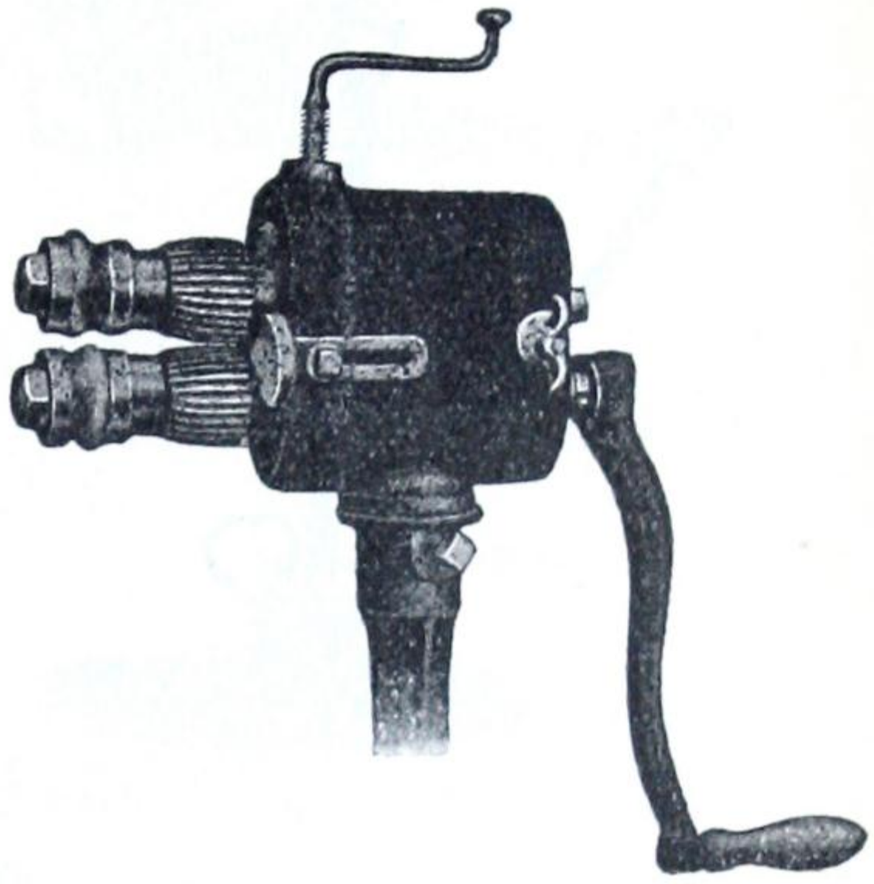


Fig. G2377.

Price with Patent Stand.....$16.30
Extra Crimping Beads.....Per Pair 3.50

GROOVING MACHINES.

No. 1 BRASS MOUNTED.

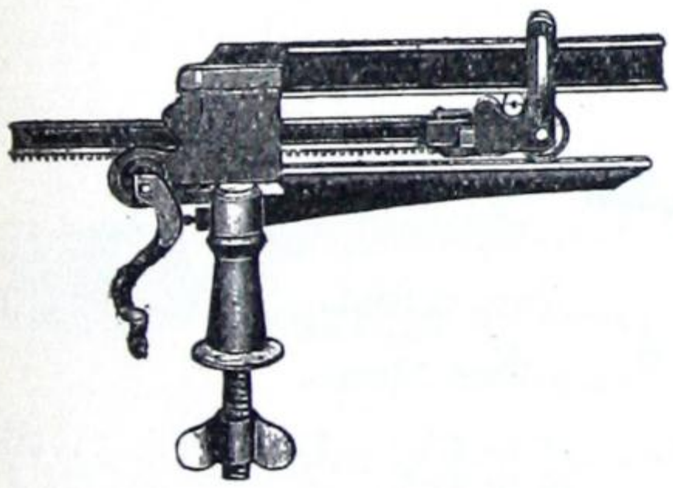


Fig. G2381.

For No. 20 Gauge Iron and Lighter.

No. 1, with Standard 20 in. long.....$19.00
No. 2, " " 17 " 15.50
Extra Grooving Rollers..... 2.35

No. 6 NOYES.

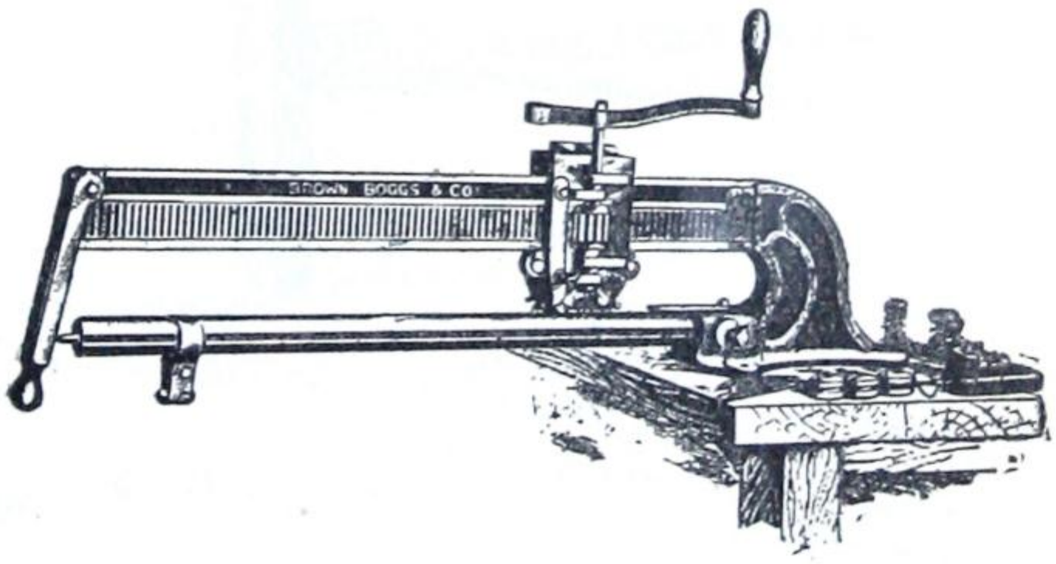


Fig. G2382.

Grooves No. 22 Gauge Iron or Lighter, and not less than 2″ diam.

Width of Grooved Rollers, $\frac{3}{16}$, $\frac{5}{16}$, $\frac{7}{16}$ & $\frac{9}{16}$.

No. 6. 30″ Material.....Price $44.50
No. 7, 36″ " ..... " 54.00

ROOFING TOOLS.

ROOFING DOUBLE SEAMER TONGS.
For Terne Plate or Light Galvanized Iron.



Fig. G2391.

No. 1, Set 1″ and 1¼″, per Set Two.....$38.65
No. 2, " 1¼″ and 1½″ " " " $38.65

ROOFING DOUBLE SEAMERS.

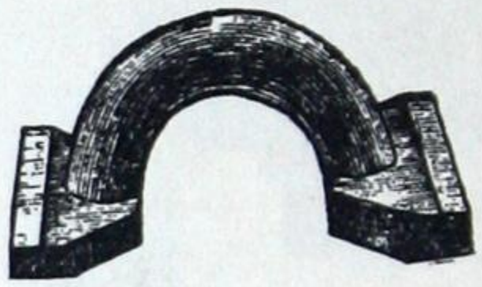


Fig. G2392.

Set ½ and ¾ } Per Set, Two Pairs..... $2.70
" ¾ and 1
" 1 and 1¼
" 1¼ and 1½

ORDINARY ROOFING TONGS.

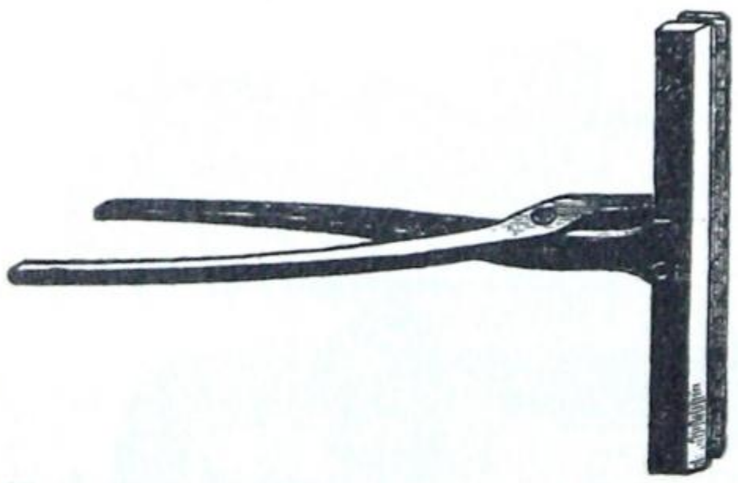


Fig. G2394.

Set ¾ and 1 ″ } Per Set, Two Pairs..... $7.75
" 1 and 1¼″
" 1¼ and 1½″
" 1½ and 1¾″

ROOFING TONGS.
With Adjustable Gauge.

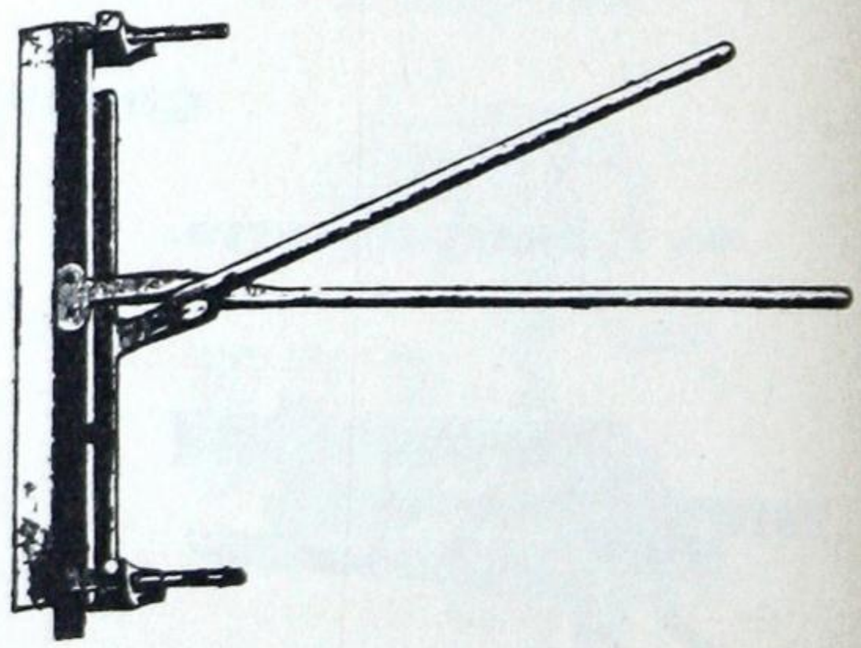


Fig. G2395.

Two Sizes.

Adjustable from 1″ to 3″. Per Pair..... $6.25
" " 1¾ to 4½″. " " 7.25

NOTE.—For ½″ Finished Standing Seam requires ¾″ and 1″ Roofing Tongs and ½ and ¾ Double Seamers.
" ¾″ " " " " 1″ and 1¼″ " " " ¾ and 1″ " " "
" 1″ " " " " 1¼ and 1½″ " " " 1 and 1¼″ " " or
Double Seamer Tongs.
" 1¼″ " " " " 1½ and 1¾″ " " " 1¼ and 1½″ " " or
Double Seamer Tongs.

Gutter Tongs.—8″ Throat.....$6.45 per pair.

TINSMITHS' TOOLS.

ROOFERS' SPIKE PULLERS.

For Drawing Eave Through Spikes, etc.



Fig. G2401.

Price per Pair..... $3.15

CUTTING NIPPERS.

With Removable Cutters.

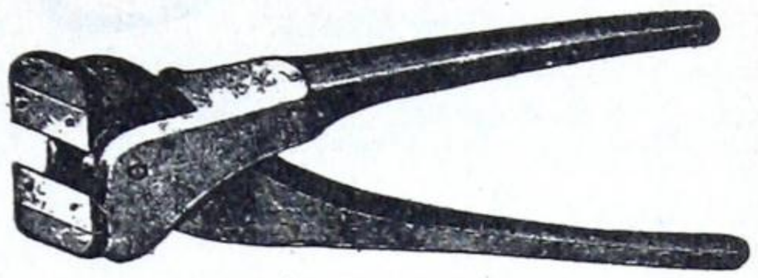


Fig. G2402.

No. 1, Length 12″, Breadth 1¾″.....Each $3.00
Extra Cutters.....per Pair 1.00
" Screws.....per Set (4) .20

SEARIGHT'S.

Compound Lever Snips.



Fig. G2405.

BENCH SHEARS.



Fig. G2406.

Number.....	8	10	12	14
Length, Inches.	8	10½	12	14
Length Blade..	2	3	3½	4½
Cut "	1¾	2¼	3	3½
Price Each.....	$1.50	$2.25	$3.00	$3.50

Number.....	00	0	1	2	3	4
Cut, Inches....	12	10	9	8	7	6
" Gauge....	18	18	19	20	21	22
Price per Pair..	$21.70	$19.10	$12.60	$7.50	$6.50	$5.80

Nos. 00 and 0 are made with Removable Blades.

HAND SHEARS.

Straight.

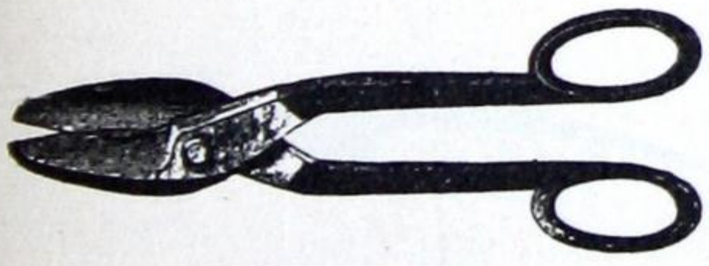


Fig. G2407.

Circular.



Fig. G2408.

Straight Handle Snips.



Fig. G2409.

Number.....	6½	7	8	9	10	12
Cut, Inches.....	4½	4	3½	3	2½	2
" Gauge.....	22	22	22	24	26	28
Price, Straight.....	$4.40	$3.70	$3.00	$2.30	$2.10	$1.30
" Circular.....	.....	$5.20	$4.40	$3.70	$3.70	.....

Length, Inches	8	9	10
Price, Each...	$ .90	$1.00	$1.20

COMBINATION SNIPS.
For Straight, Circular and Irregular Work.



Fig. G2411.

No.	Full Length.	Cut.	Price.
17	14″	4 ″	$4.20
18	13″	3½″	3.50
19	12″	3 ″	2.80

DOUBLE CUTTING SHEARS.

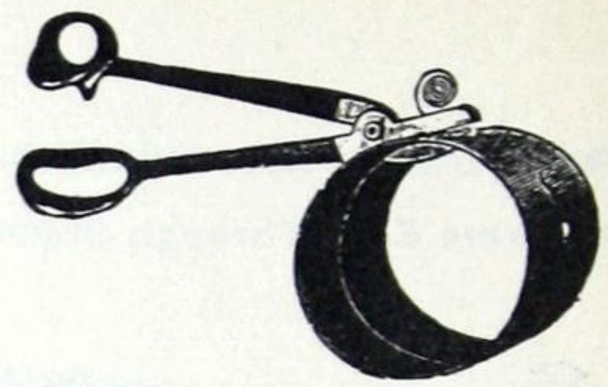


Fig. G2415.

Price per Pair $3.70

HAMMERS.

RIVETING.



Fig. G2416.

SETTING. Ordinary.



Fig. G2417.

SETTING. Style "B."



Fig. G2418.

Number	0	1	2	3	4	5
Size of Square	1¼″	1⅛″	1″	⅞″	¾″	⅝″
Riveting ..... Each	$1.25	$1.00	.85	.70	.56	.50
Setting, Ordinary ..... "	.....	1.00	.85	.70	.56	.50
" Style "B" ..... "	.....	1.20	1.05	.90	.75	.....

Above Hammers are supplied with Handles.

RAISING.



Fig. G2419.

No.	Price. Steel.	Cast Iron
1	$2.65	$1.40
2	2.30	1.15
3	1.90	.80
4	1.50	.70

MACHINISTS' BALL PEIN.



Fig. G2420.

No.	Size	Weight Pounds	Price Each.
12	8	3	$1.85
12A	6	2½	1.60
12C	4	2	1.40
12E	2	1½	1.20
12G	0	1	1.05

PLANISHING or FLANGING.



Fig. G2421.

Price on application.
Made to Order only.

EAVE TROUGH.



Fig. G2422.

Total Length 14½ ins. Each..$1.70

TINNERS' MALLETS.

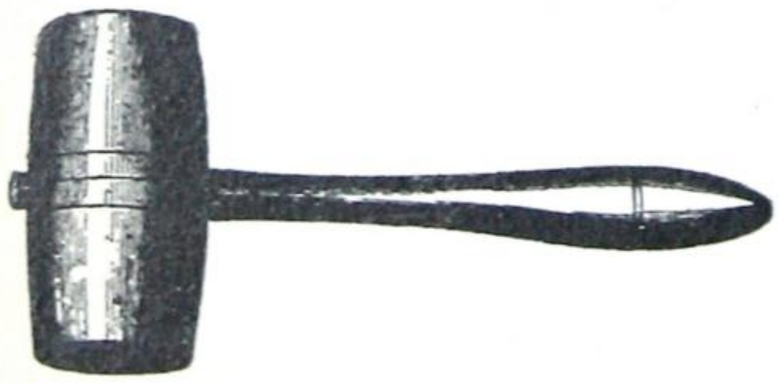
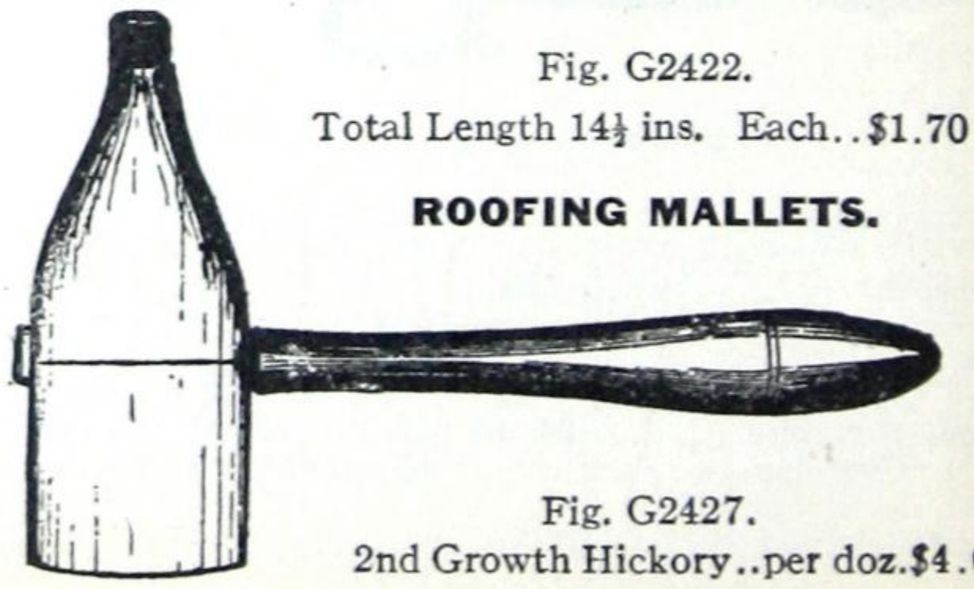


Fig. G2426.

2nd Growth Hickory ..... per doz. $3.25
Apple Wood ..... " " 4.75



ROOFING MALLETS.

Fig. G2427.

2nd Growth Hickory..per doz.$4.00

PUNCHES.

HOLLOW.



Fig. G2331.

Size, Inches	¼	⅜ & ½	⅝ & ¾	⅞ & 1	1⅛ & 1¼	1⅜ & 1½	1⅝ & 1¾	1⅞ & 2	2¼	2½	3
Price, each	$0.40	.58	.86	1.15	1.45	1.75	2.05	2.30	2.65	2.90	3.45

SOLID—REGULAR.

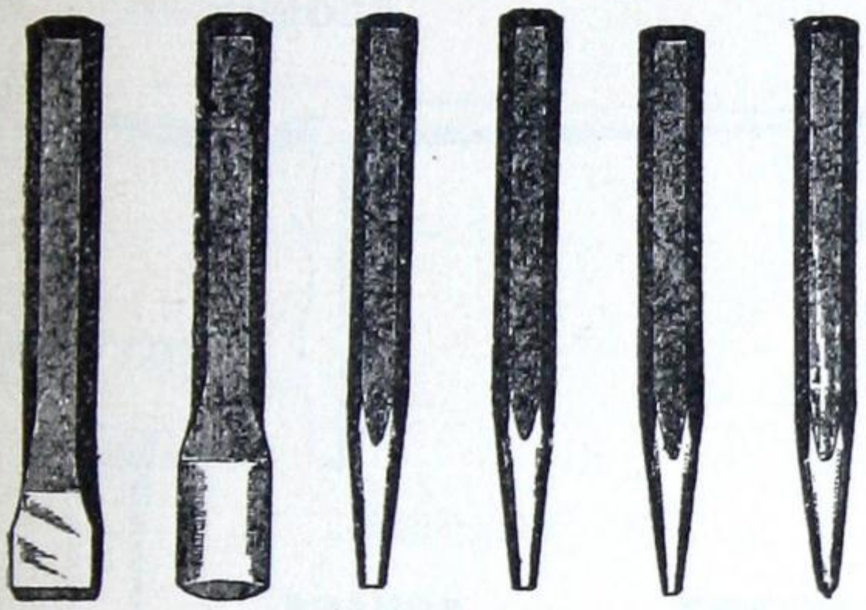


Fig. G2432.

Per Set (4 Punches and 2 Chisels)..... $0.85

No.	0	1	2	3	4	5	6	7	8
Size of end 64th inch	18	17	16	15	13	12	11	9	8

Solid Punches Nos. 0 to 8.....each $0.19
" " " " ..... per set 1.55

SOLID—EXTRA HEAVY.

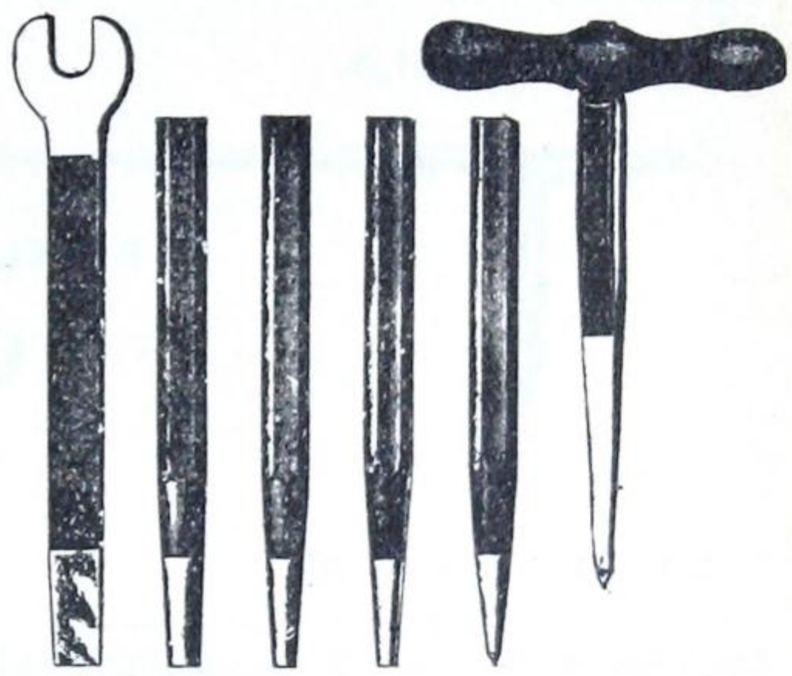


Fig. G2433.

Per Set (4 Punches, Reamer and Comb Screw Driver and Wrench)..... $2.10
Extra Punches.....each .28
" Reamer..... " .65
" Comb, Screw Driver and Wrench " .38

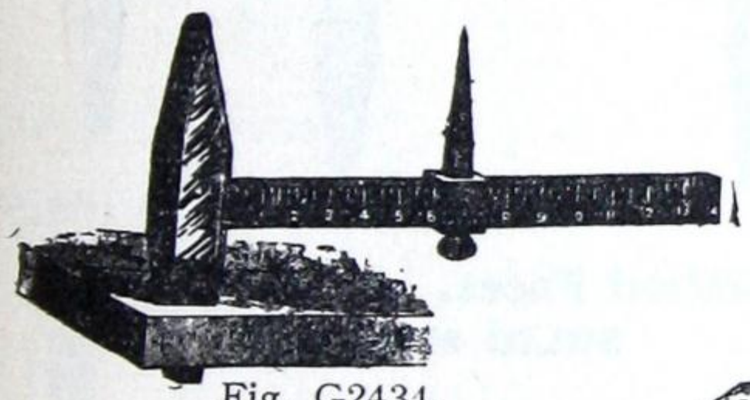


Fig. G2434.

INSIDE CIRCLE CUTTING CHISEL.

Will Cut a Circle 2″ to 10″.

Price..... $4.20

RIVET SETS.



Fig. G2436.

Size, Numbers	00	0	1	2	3	4	5	6	7	8
" Hole	11/32	10/32	9/32	8/32	7/32	6/32	5/32	9/32	4/32	7/32
" Rivets	16 & 20 lbs.	12 & 14 lbs.	8 & 10 lbs.	6 & 7 lbs.	4 & 5 lbs.	2 & 3 lbs.	1¾ lbs.	1½ lbs.	14,16&20 ozs.	8 & 10 ozs.
Price, each	$0.96	.96	.82	.82	.66	.66	.50	.50	.42	.42

HAND GROOVERS.

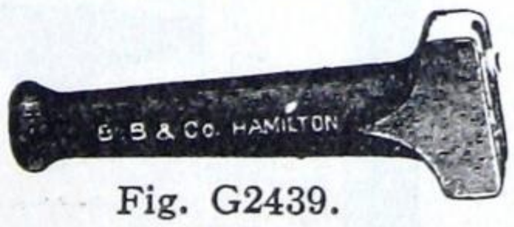
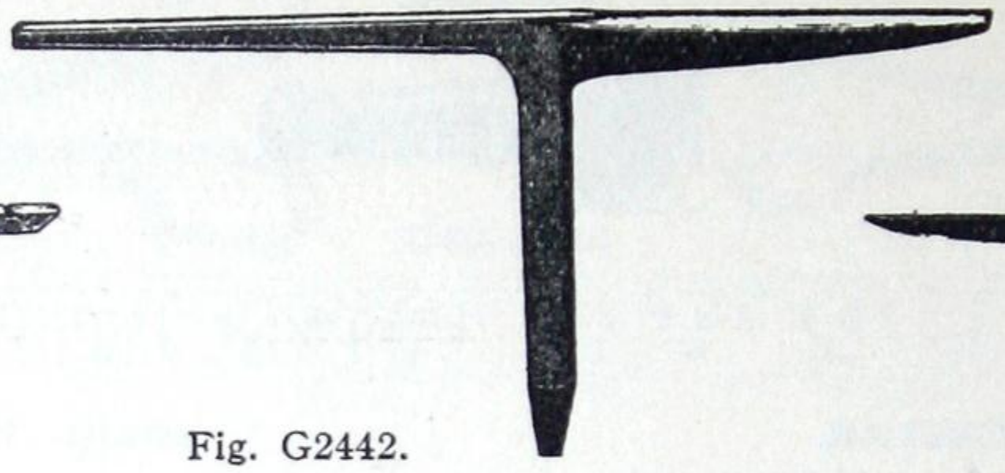


Fig. G2439.

Number	00	0	1	2	3	4	5	6
Size largest part of Groove	9/16″	½″	7/16″	⅜″	5/16″	¼″	3/16″	⅛″
Price, each	$ .90	.90	.75	.75	.60	.60	.50	.50

STAKES.—Wrought Iron With Steel Faces.

No. 1. BEAKHORN.



CREASING WITH HORN.



Fig. G2441.

Fig. G2442.

NEEDLE CASE.



Fig. G2443.

CANDLE MOULD.



Fig. G2444.

BEVEL EDGE SQUARE.



Fig. G2445.

BLOWHORN.

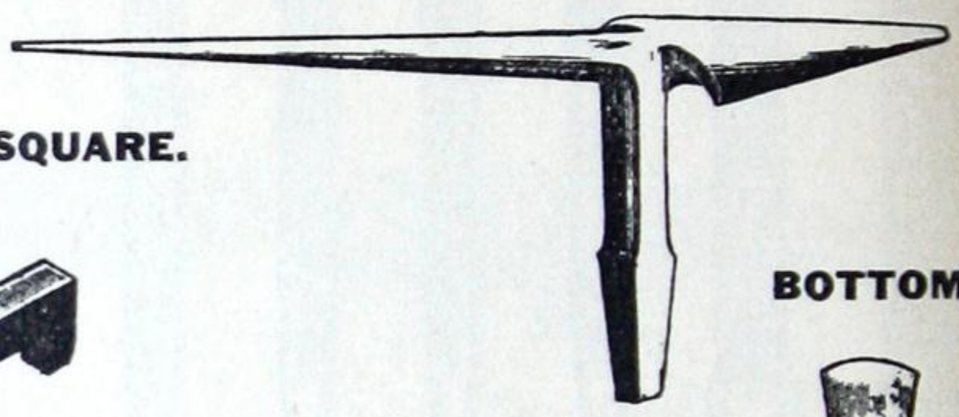


Fig. G2446.

BOTTOM.



DOUBLE SEAMING.

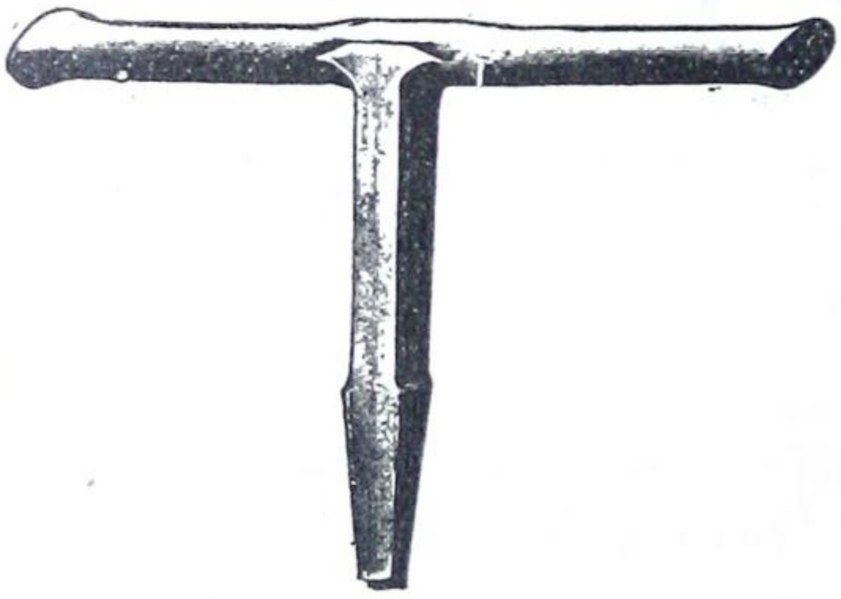


Fig. G2447.

HATCHET.

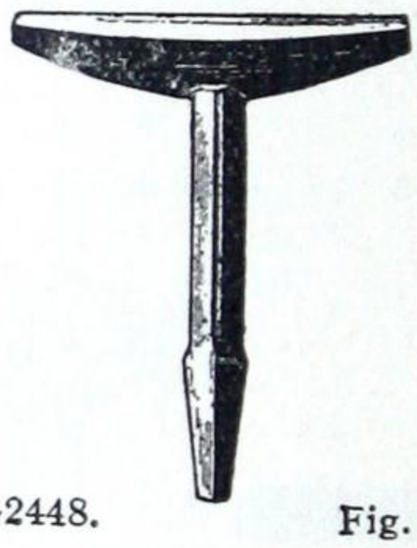


Fig. G2448.

SQUARE.



Fig. G2449.

Fig. G2450.

STAKES.—Cast Iron with Polished Faces.

HOLLOW MANDREL.

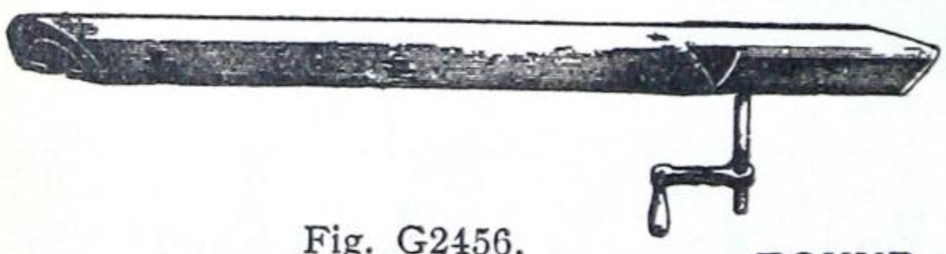


Fig. G2456.

SOLID MANDREL.

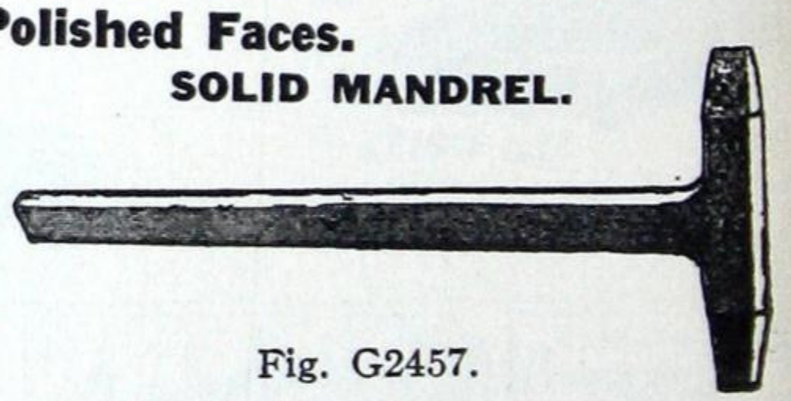


Fig. G2457.

CONDUCTOR.



Fig. G2458.

ROUND HEAD.



Fig. G2459.

DOUBLE SEAMING.
With 4 Heads.

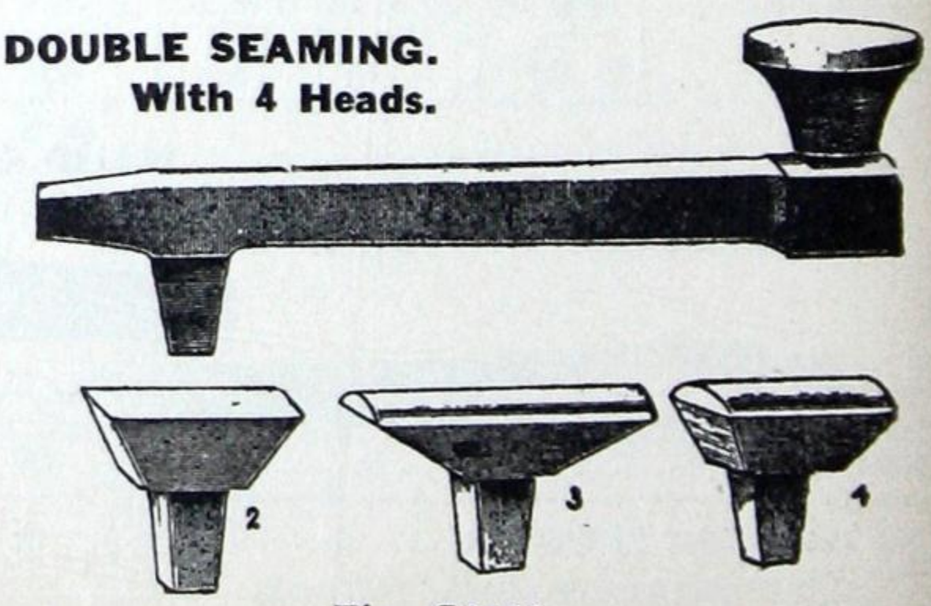


Fig. G2460.

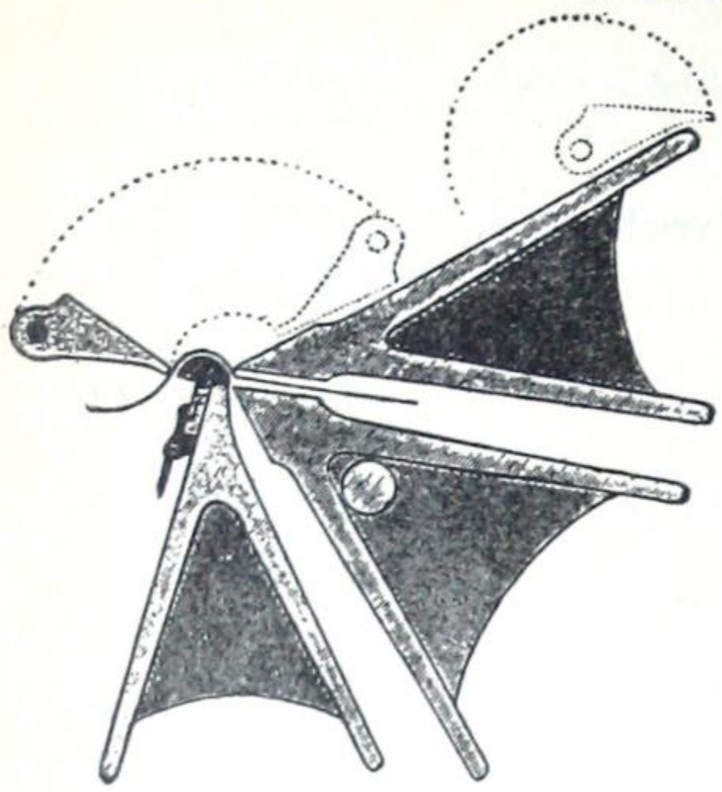
STAKES.—Wrought Iron with Steel Faces.

NAME.	DIMENSIONS.	Price.
Creasing with Horn	Rd. End 8½" Flat End 6½"	$ 5.20
Beakhorn, No. 1	45 Pounds	19.30
" " 2	40 "	17.10
" " 3	30 "	12.90
Needle Case	Rd. End 10½", Flat End 8"	3.60
Candle Mould	Small End 18", Horn 8½"	3.60
Bevel Edged Square, No. 1	3" x 5"	7.75
" " " " 2	2½" x 4½"	6.45
Blowhorn	Small End 17½", Large End 9"	6.45
Double Seaming, No. 1	Small End 11", Large End 17"	11.60
" " " 2	Each End 11"	10.30
Hatchet, No. 1	Blade 16" Long	6.45
" " 2	" 14½" "	5.50
" " 3	" 13" "	4.50
" " 4	" 11" "	3.60
" " 5	" 9" "	3.25
" " 6	" 7" "	3.00
Square, Common	2⅝" x 4½"	3.90
" Large	3½" x 5½"	7.75
" Small	2⅜" x 1½"	2.60
Bottom, No. 1	Width 1¾"	1.65
" " 2	" 1½"	1.30
" " 3	" 1¼"	1.10
" " 4	" 1"	.95
Square, Coppersmiths'	2⅝" x 4½"	4.50

STAKES.—Cast Iron with Polished Faces.

NAME.	DIMENSIONS.	Price.
Mandrel, Hollow, No. 1	5 ft. entire length	$12.90
" " " 2	3 ft. 4 in. entire length	7.10
Mandrel, Solid, No. 1	5 ft. to Standard	12.90
" " " 2	3 ft. 4 in. "	7.75
" " " 3	2 ft. 10 in. "	6.45
" " " 4	2 ft. 6 in. "	5.20
Conductor, No. 1 Turned	Large End 15", Small End 11½"	5.20
" " 2 "	" " 14", " " 10"	3.90
Round Head		1.65
Double Seaming, with 4 Heads		11.60
" " Less Heads		4.50
" " Extra Heads		2.00

FOUR LEAF CORNICE BRAKE.



Showing mode of operating.
Dotted line shows at rest.

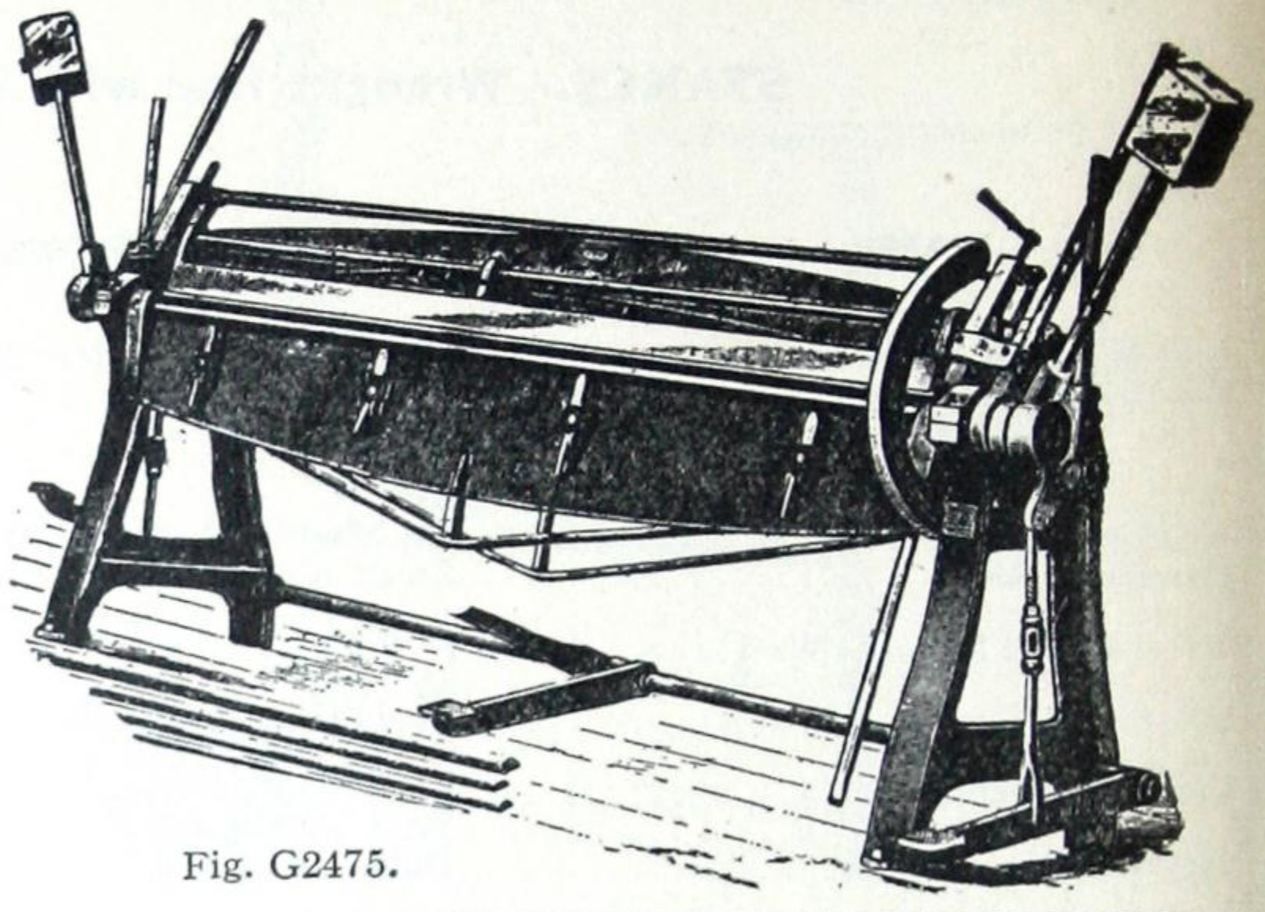


Fig. G2475.

		With 4th Leaf.		Without 4th Leaf.	
		Weight about	Price.	Weight about	Price.
No. 2	6 ft.	2,000	$300.00	1,800	$234.00
" 3	8 ft.	3,300	413.00	3,000	328.00
" 10	10 ft.	....	.....	4,600	535.00

The 6 and 8 foot Brakes will bend No. 20 Gauge Iron perfectly straight with ease, and with Re-inforcing Bar (sent with each machine) will bend No. 18 Gauge.

The 10 foot Brakes will bend No. 22 Gauge Iron perfectly straight with ease, and with Re-inforcing Bar (sent with each machine) will bend No. 20 Gauge.

Re-inforcing Bar can be used as Straight Edge when not in use on Brake.

Section of Brake with Beading Attachment.

No. 7. 8 FT. LIGHT CORNICE BRAKE.
FOR No. 24 GAUGE IRON AND LIGHTER.

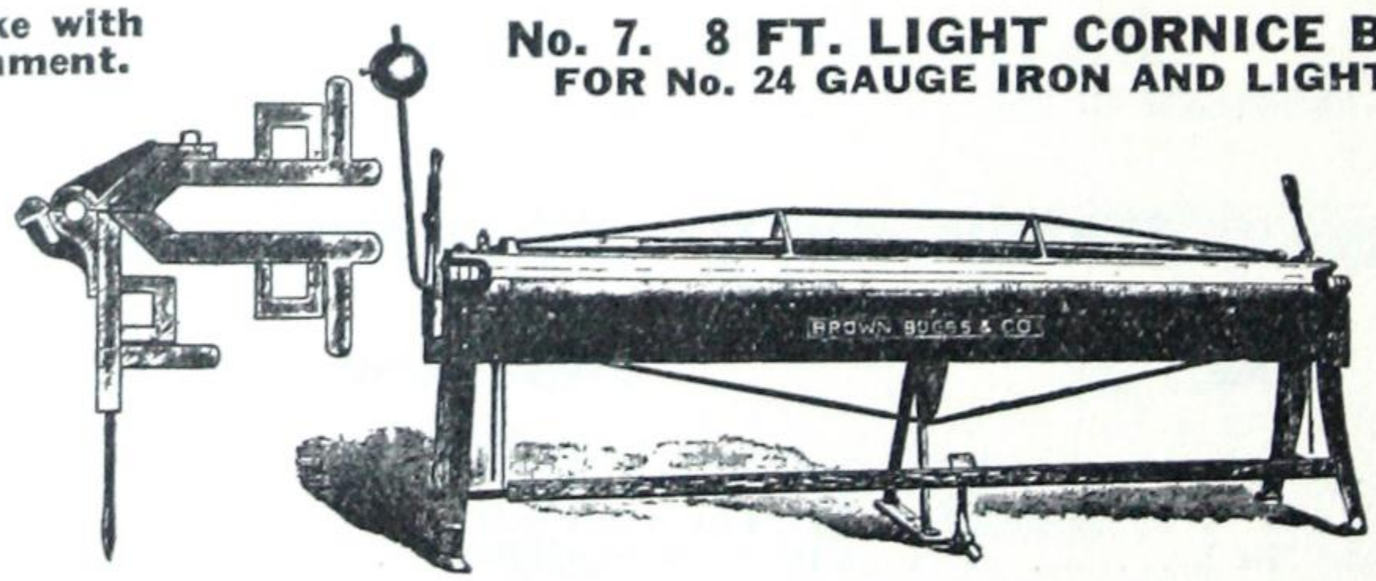


Fig. G2476.

No. 7 Brake with Wood Forms, Gauges, Scratch Awls and Wrenches, Less Beading attachment. $130.00
No. 7 Brake with Beading Attachment and Steel Rod 158.00

Beading Attachment can be supplied with either $\frac{5}{8}$" or $\frac{3}{4}$" Steel Rods as desired. $\frac{5}{8}$" Rods sent unless otherwise ordered.

Weight without Beading Attachment about 1,150 lbs.

Sheets may be split by Clamping Sheet in Brake and by bearing heavily along the entire length of Sheet with scratch awl. Raise front leaf to full extent and return to rest. Bring sheet down quickly and it will snap off.

STEEL BENDING BRAKES.

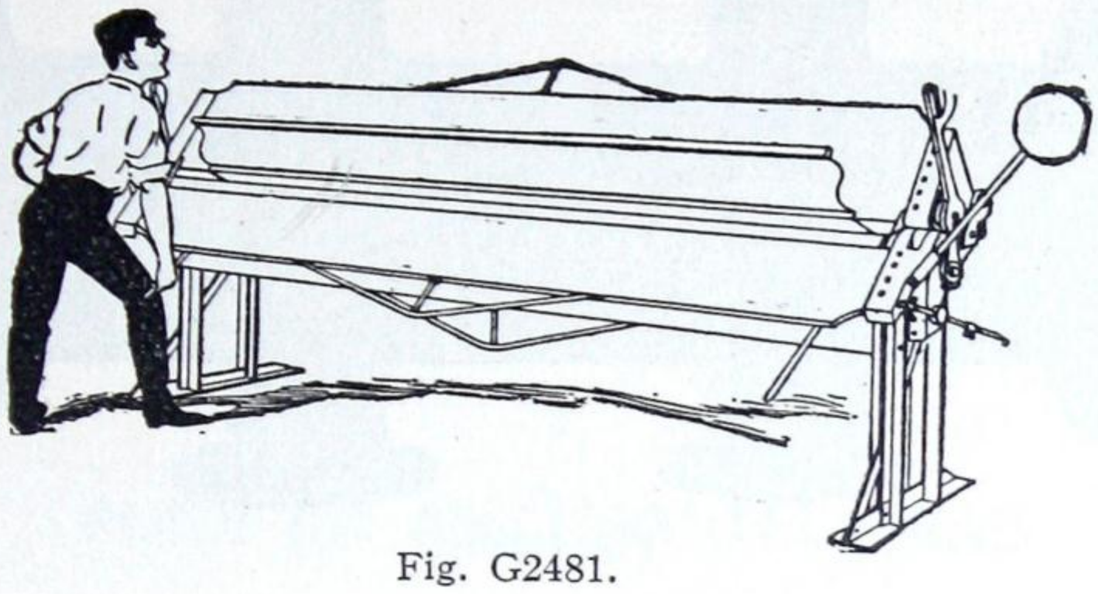


Fig. G2481.

The latest features in Plate and Sheet Bending are incorporated in this **Steel Brake.** For the Hinges and all parts where there is any great strain we use special Steel Castings; the other parts are made of Steel particularly adapted for this class of work. The folding edge of the Front Leaf is ¼ in. wide. This folding edge is re-inforced with a Steel Bar ¼ x 2 in., bolted firmly to this Leaf, which adds greatly to the strength and bending qualities of the Brake. This Bar is always used save when ¼ in. members are desired to be formed, when it can be readily removed.

RE-INFORCING BAR.

When heavy work is desired to be formed, a Steel Angle Re-inforcing Bar is bolted to the edge of the Folding Leaf, which enables the operator to bend with greater ease, heavy sheets.

STOP GAUGE.

To regulate the angle of the bend a special Stop Gauge is supplied with each machine.

Prices include **Stop Gauge, Re-inforcing Bar,** necessary **Wrenches,** and set (7) Wood Forms for forming the various circles.

Price List B. B. Steel Bending Brake.

No.	LENGTH.	GAUGE.	WEIGHT.	PRICE.
120	6 ft. 1 in.	18 G	800 lbs.	$145.00
121	6 ft 1 in.	16 G	1200 "	195.00
125	8 ft. 1 in.	18 G	1000 "	173.00
126	8 ft. 1 in.	16 G	1500 "	248.00
130	10 ft. 1 in.	18 G	1900 "	332.00
131	10 ft. 1 in.	16 G	2500 "	415.00

Brakes other sizes than listed above or required for Special Work will be quoted on application.

12″ HEADER WITH 4-8″ BRANCHES.

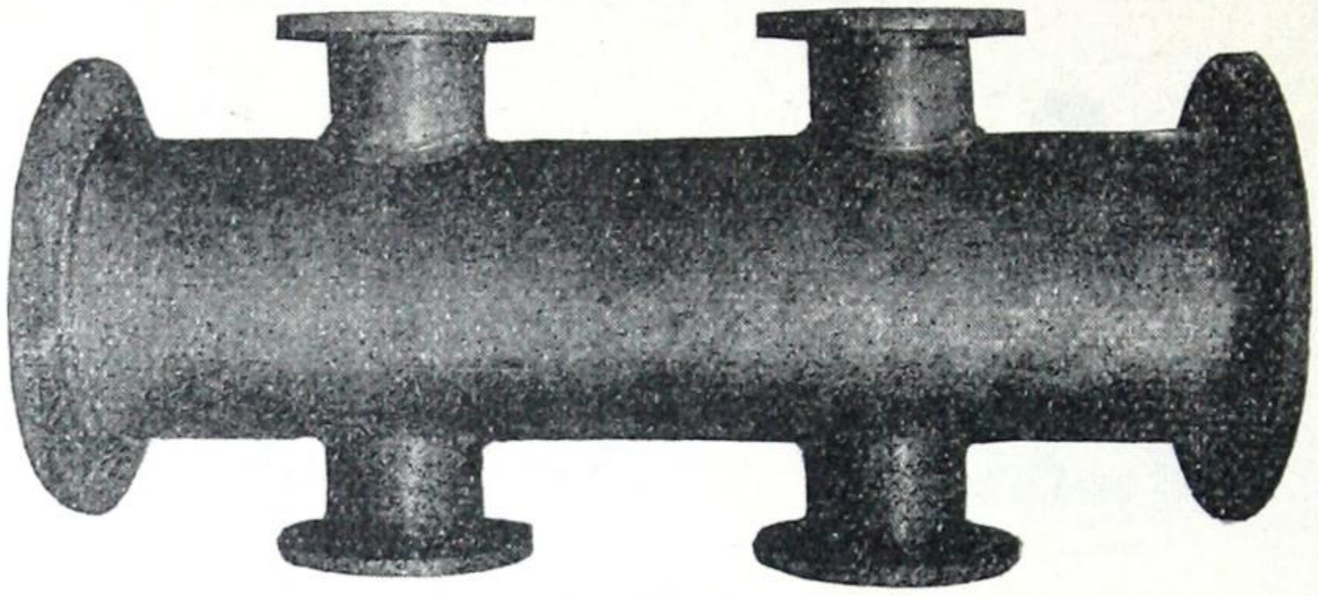


Fig. G2501.

16′ GAS SEAL.

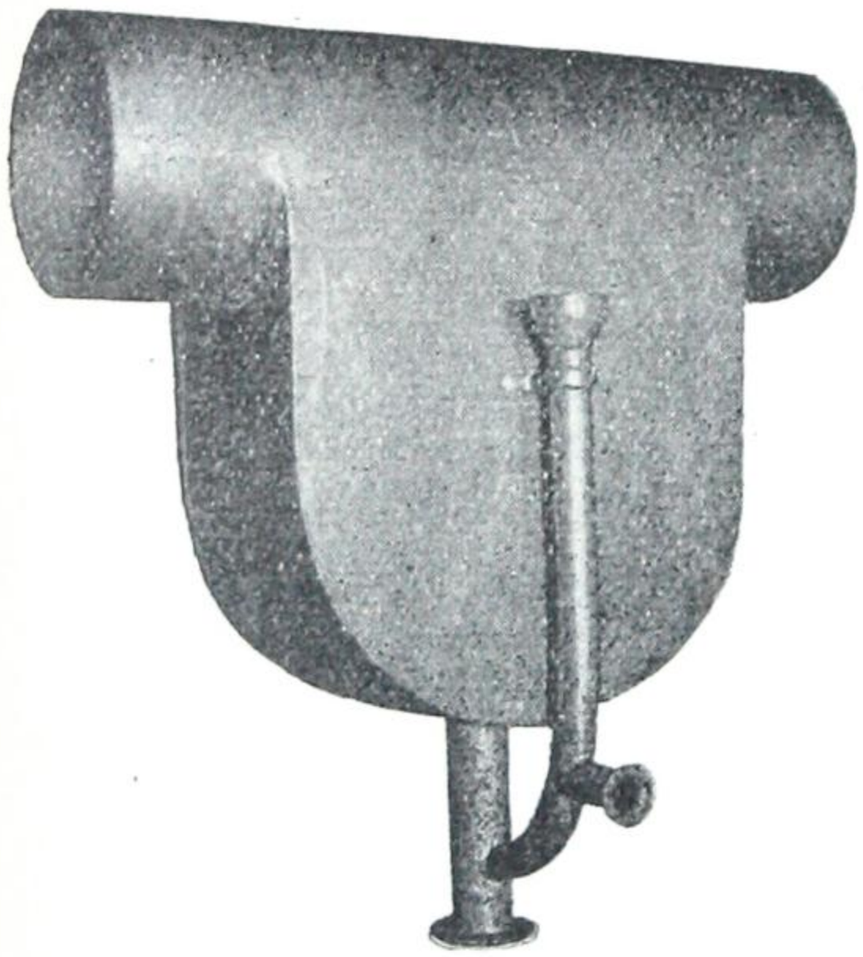


Fig. G2502.

8″-90° ELBOWS.



Fig. G2503.

16′ TEE-10 H. FITTING.



Fig. G2504.

12″ x 8″ x 12″ TEE, 8″ SIDE OUTLET.

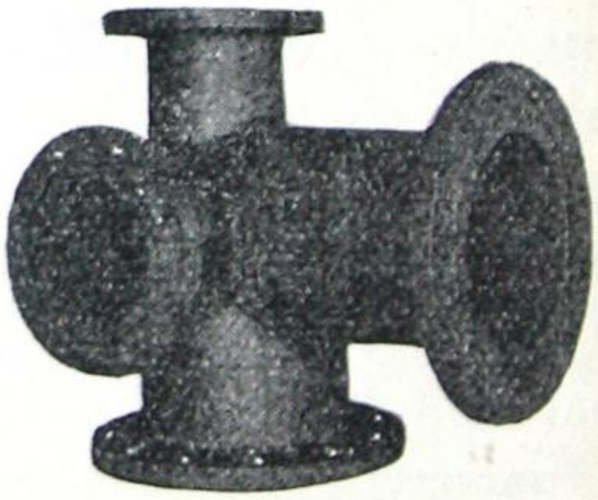


Fig. G2505.

PURE OR ANTIMONIAL LEAD

FITTINGS OR SHAPES

MADE TO ORDER

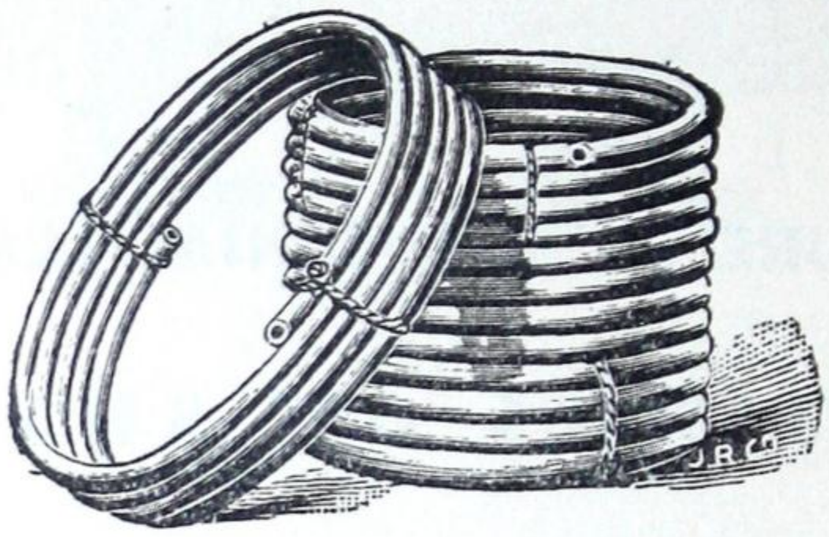
FROM BLUE PRINTS AND SPECIFICATIONS

FOR

SULPHITE MILLS AND CHEMICAL WORKS.

WE SOLICIT YOUR ENQUIRIES.

LEAD PIPE.



CALIBRE	Weight per Yard	CALIBRE	Weight per Yard
$\frac{1}{4}$-in., Medium.....lbs.	$1\frac{1}{4}$	$1\frac{1}{4}$-in., Light.....lbs.	8
$\frac{3}{8}$-in., Light.....	$2\frac{1}{2}$	Medium.....	10
Strong.....	3 and 4	Strong.....	12
$\frac{1}{2}$-in., Extra Light.....	$2\frac{1}{2}$, 3, $3\frac{1}{2}$	Extra Strong.....	14
Light.....	4	$1\frac{1}{2}$-in., Extra Light.....	10
Medium.....	$4\frac{1}{2}$	Light.....	11
Strong.....	5 and 6	Medium.....	12
Extra Strong.....	7 and 8	Strong.....	14
$\frac{5}{8}$-in., Extra Light.....	$4\frac{1}{2}$	Extra Strong.....	16 and 18
Light.....	5	$1\frac{3}{4}$-in., Extra Light.....	14
Medium.....	6	Light.....	16
Strong.....	7	Medium.....	18
Extra Strong.....	8 and 9	Strong.....	20
$\frac{3}{4}$-in., Extra Light.....	5	2 -in., Extra Light.....	16
Light.....	6	Light.....	18
Medium.....	7	Medium.....	20
Strong.....	8	Strong.....	22
Extra Strong.....	9 and 10	Extra Strong.....	24
1-in., Extra Light.....	5	$2\frac{1}{2}$-in., Light.....	20
Light.....	6	Medium.....	24
Medium.....	7	Strong.....	27
Strong.....	8	Extra Strong.....	30 and 32
Extra Strong.....	9 and 10	3 -in., Light.....	27
Double Strong.....	12 and 13	Medium.....	30
$1\frac{1}{4}$-in., Extra Light.....	6	Strong.....	34

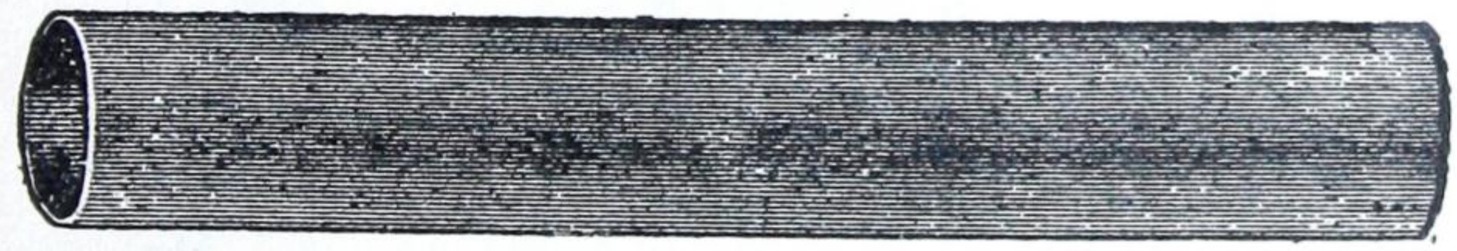
LEAD PIPE.

EXTRA WEIGHTS.

Per Foot.

Inside Diameter	$\frac{7}{16}$ Thick		$\frac{3}{8}$ Thick		$\frac{5}{16}$ Thick		$\frac{1}{4}$ Thick		$\frac{3}{16}$ Thick	
	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.	Lbs.	Oz.
$2\frac{1}{2}$ inches	20	0	16	11	13	11	11	0	7	13
3 inches	23	0	19	10	16	0	12	0	9	6
$3\frac{1}{2}$ inches	26	10	22	0	18	5	15	0	10	0
4 inches	30	0	25	0	21	0	16	0	12	8
$4\frac{1}{2}$ inches	33	0	29	0	23	0	18	0	14	0
5 inches	37	0	31	0	25	0	20	0	15	0
6 inches	44	0	37	0	30	0	24	0	18	0
7 inches	52	0	44	0	36	0	28	0	21	0
8 inches	60	0	51	0	42	0	33	0	24	0
10 inches	75	0	63	0	52	0	41	0	31	0
12 inches	90	0	76	0	63	0	50	0	37	0

CHEMICAL LEAD PIPE.



Solid drawn from $\frac{1}{4}''$ to 12″ diameter. Made from Chemical Pig Lead or Alloy of Lead and Antimony, thoroughly manipulated by expert workmen, thus assuring homogeneousness to the composition.

WASTE PIPE.

IN 8 FOOT LENGTHS.

	$1\frac{1}{4}$ Weight Per Yard	$1\frac{1}{2}$ Weight Per Yard	2 Weight Per Yard	$2\frac{1}{2}$ Weight Per Yard	3 Weight Per Yard	4 Weight Per Yard
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Light.....	5	$5\frac{1}{2}$	6	$8\frac{1}{2}$*	10	$13\frac{1}{2}$
Medium.....	6	7	$8\frac{1}{2}$	$13\frac{1}{2}$	$16\frac{1}{2}$	18
Strong.....	7*	8*	$10\frac{1}{2}$*	16	$22\frac{1}{2}$	24
Extra Strong.....	8	9	12	23	..	..

* Standard Marked

Special Lengths to Order.

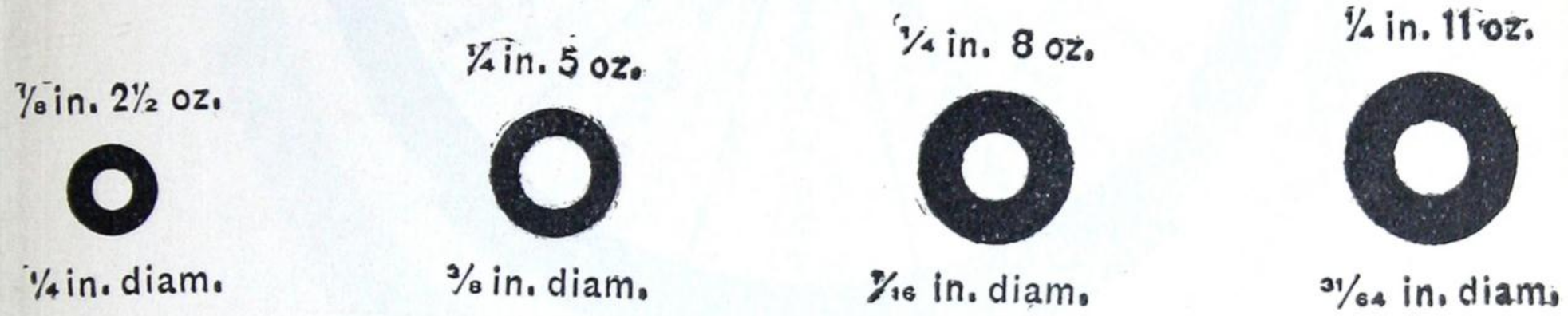
COMPOSITION GAS TUBING.

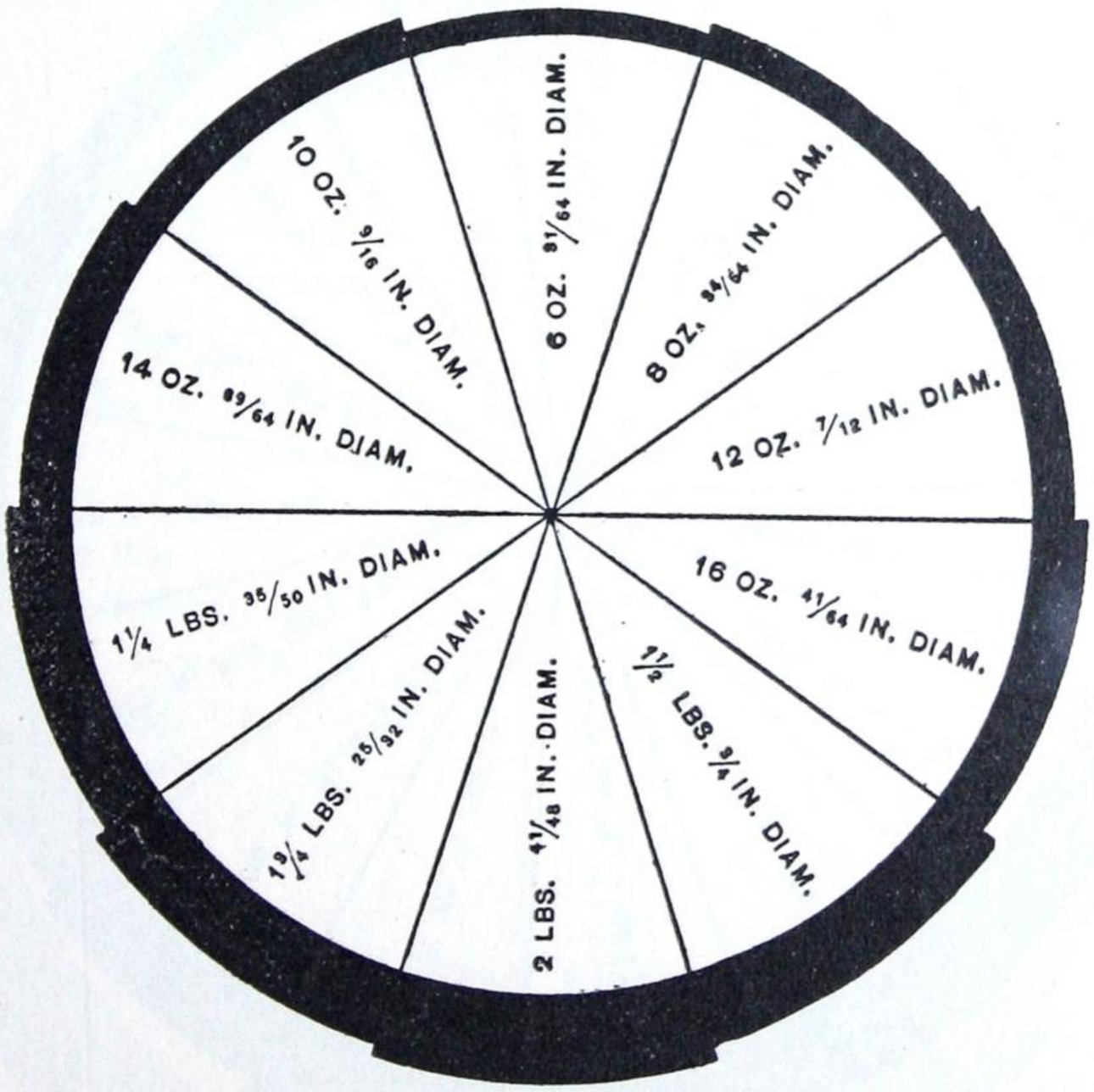
ON REELS.

Calibre.....	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{3}{4}''$	$1''$
Weight per yard.....lbs.	1	$1\frac{3}{4}$	$2\frac{1}{4}$	3	$3\frac{1}{4}$
Average length.....yards	75	50	40	30	25

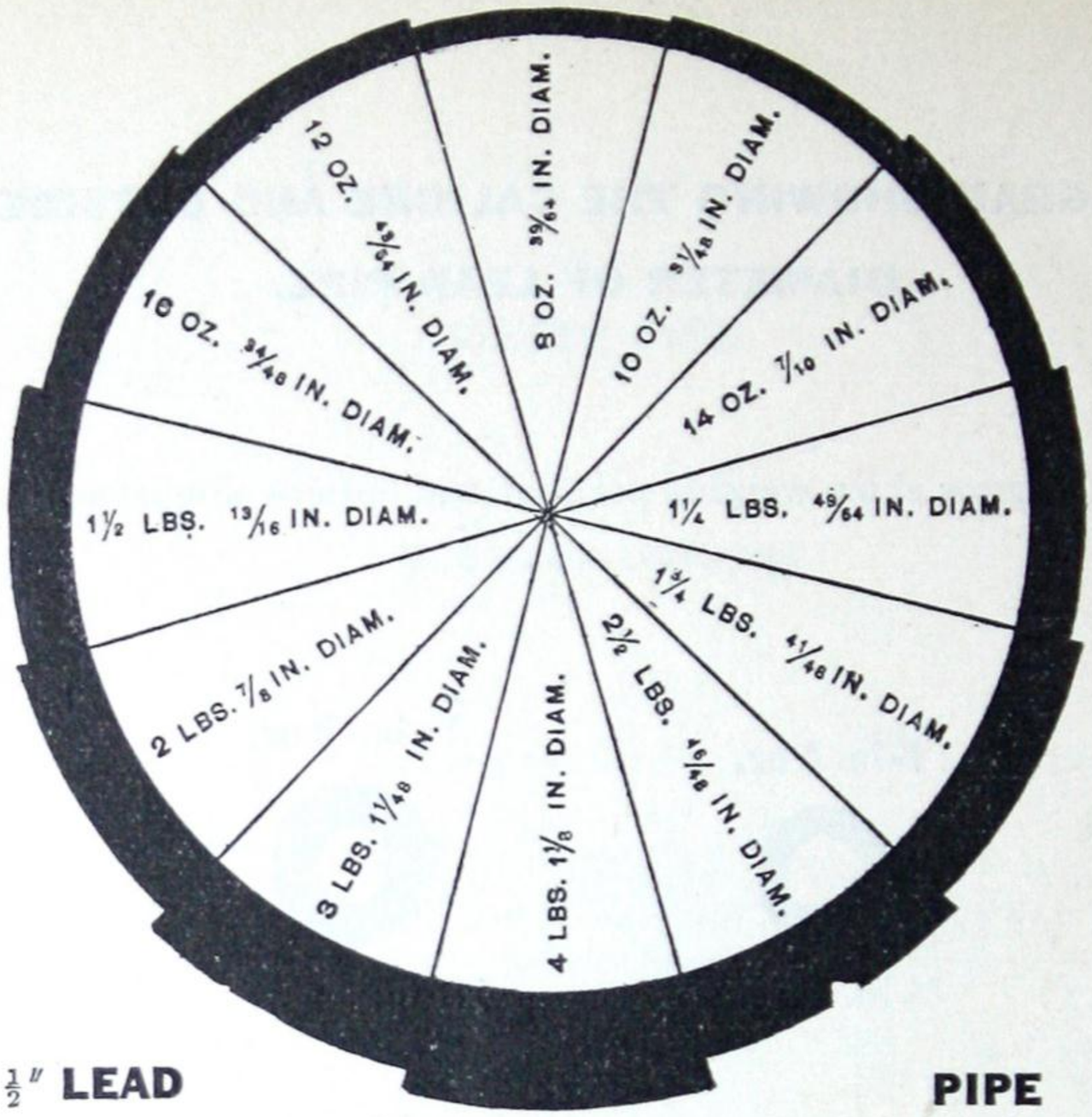
DIAGRAM SHOWING THE CALIBRE AND OUTSIDE DIAMETER OF LEAD PIPE.

(Figures show weights per foot and outside diameter.)

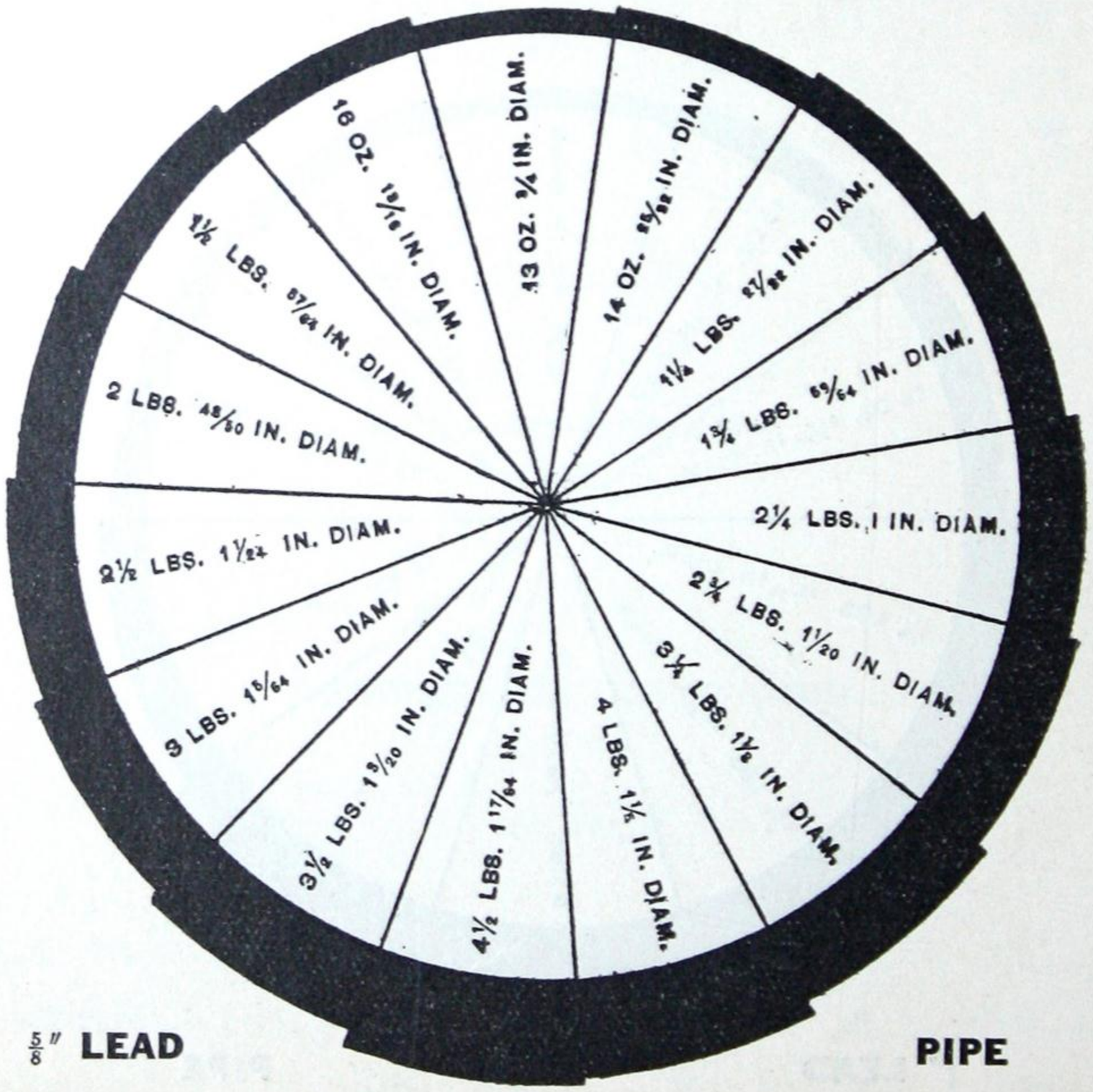




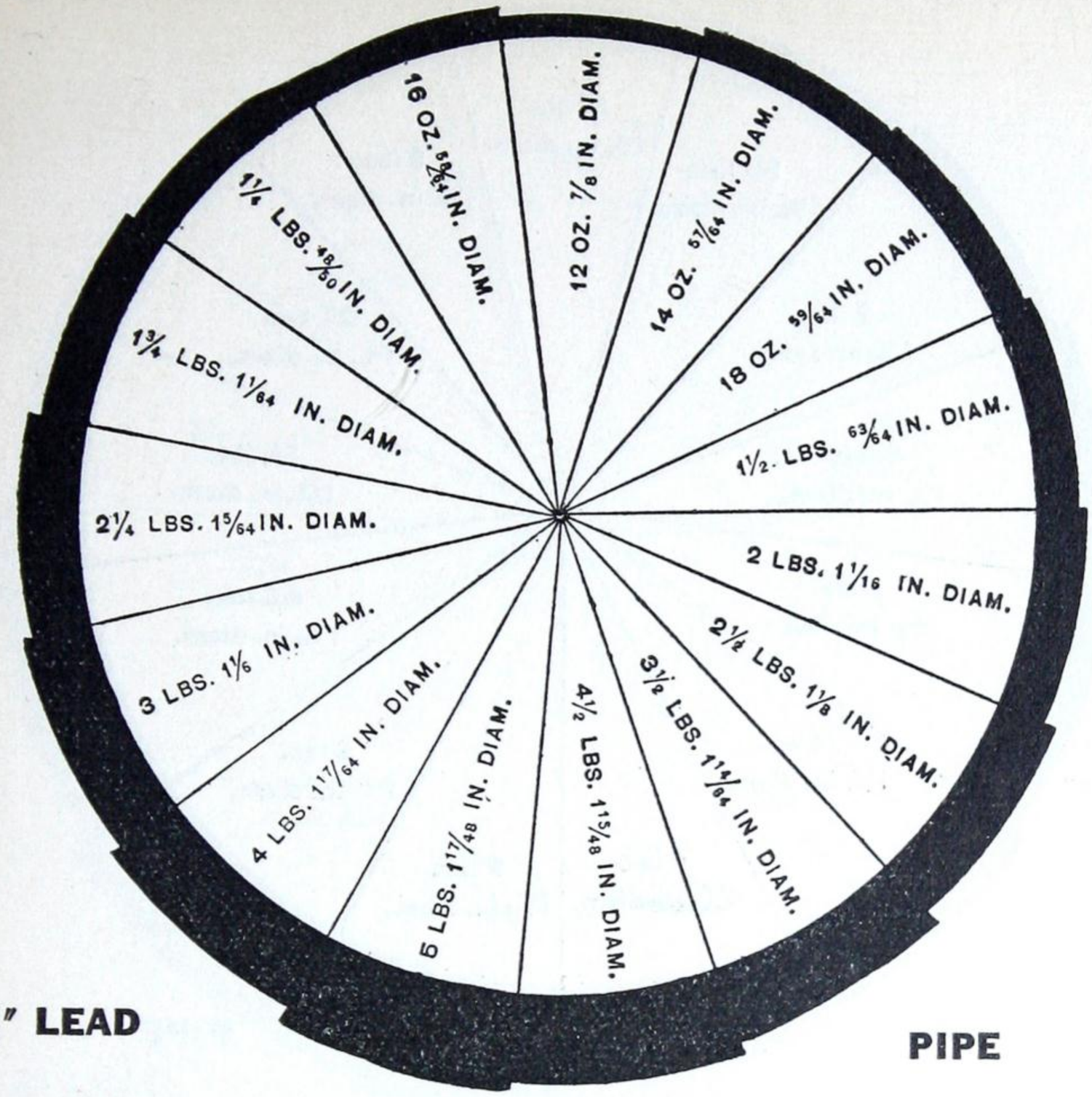
⅜" LEAD PIPE



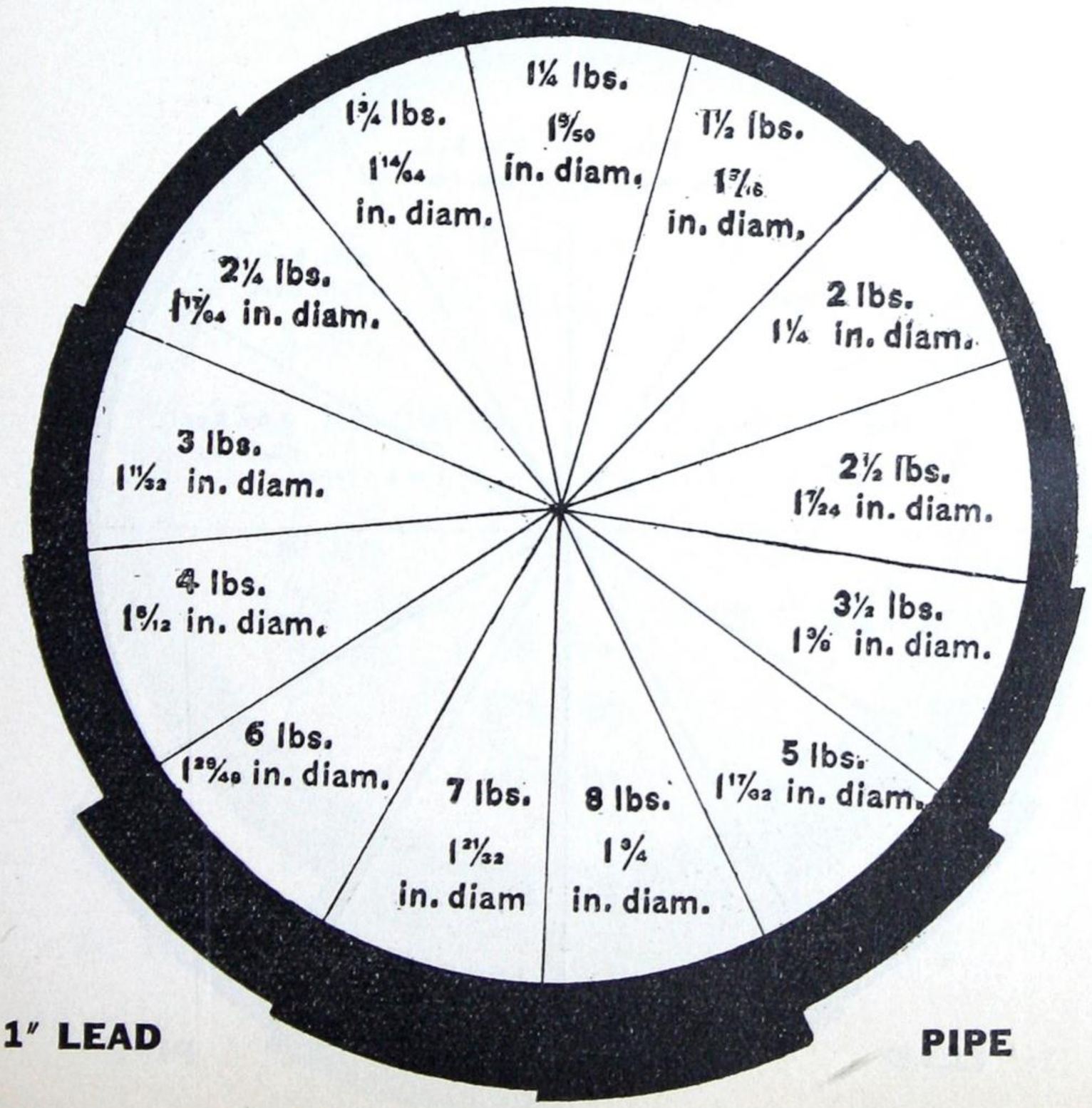
½" LEAD PIPE



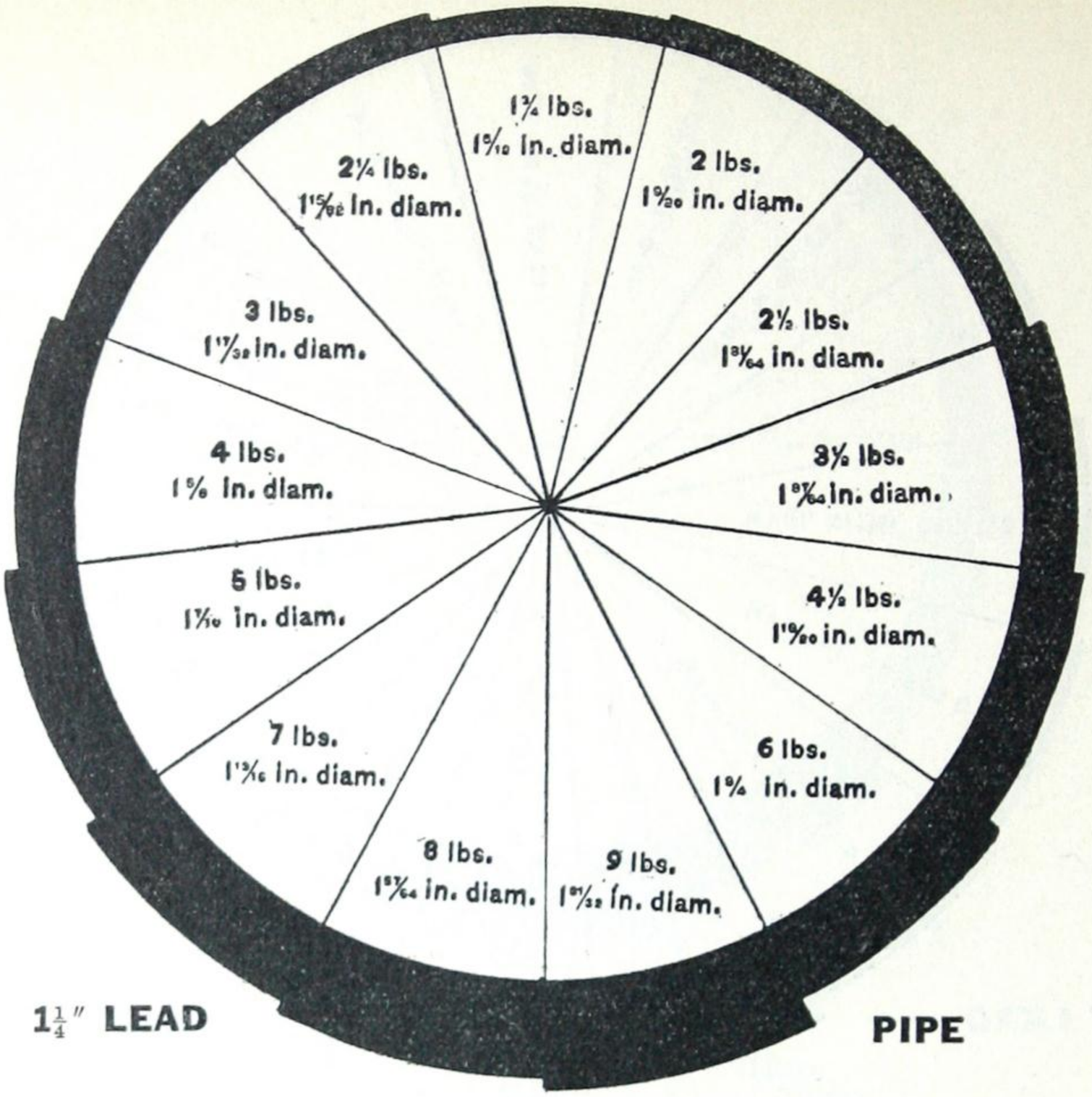
⅝" LEAD PIPE

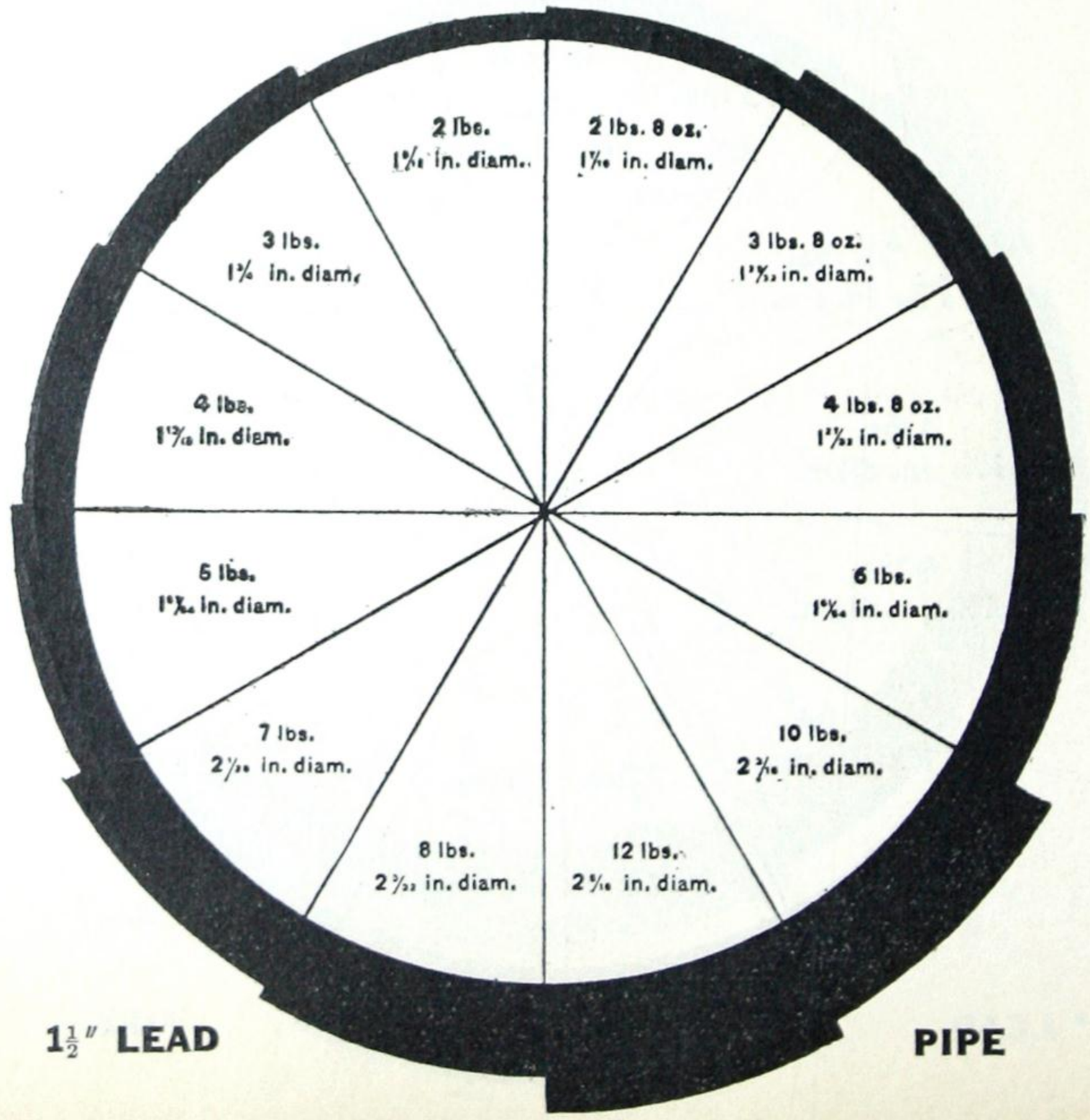


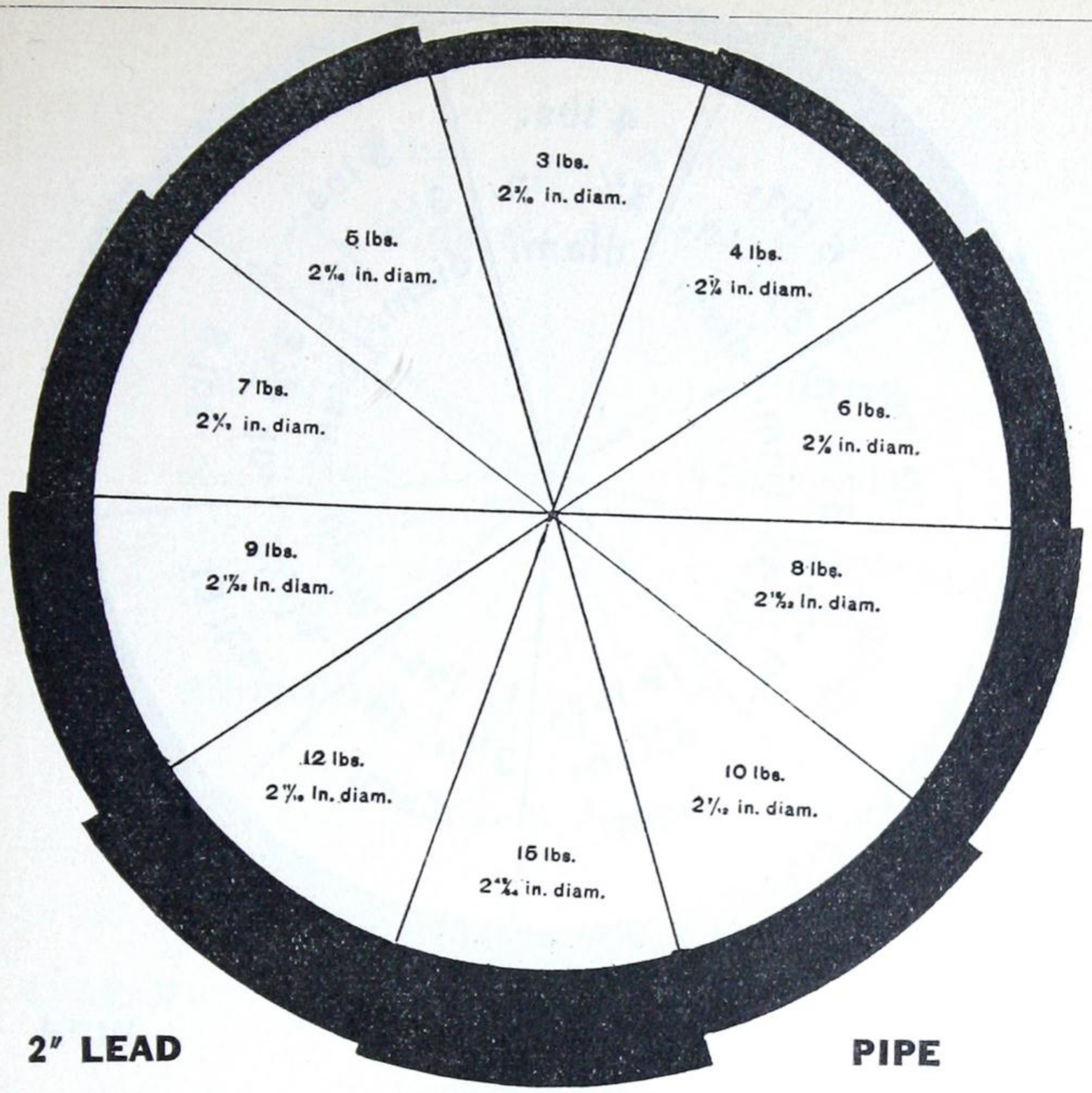
¾″ LEAD PIPE



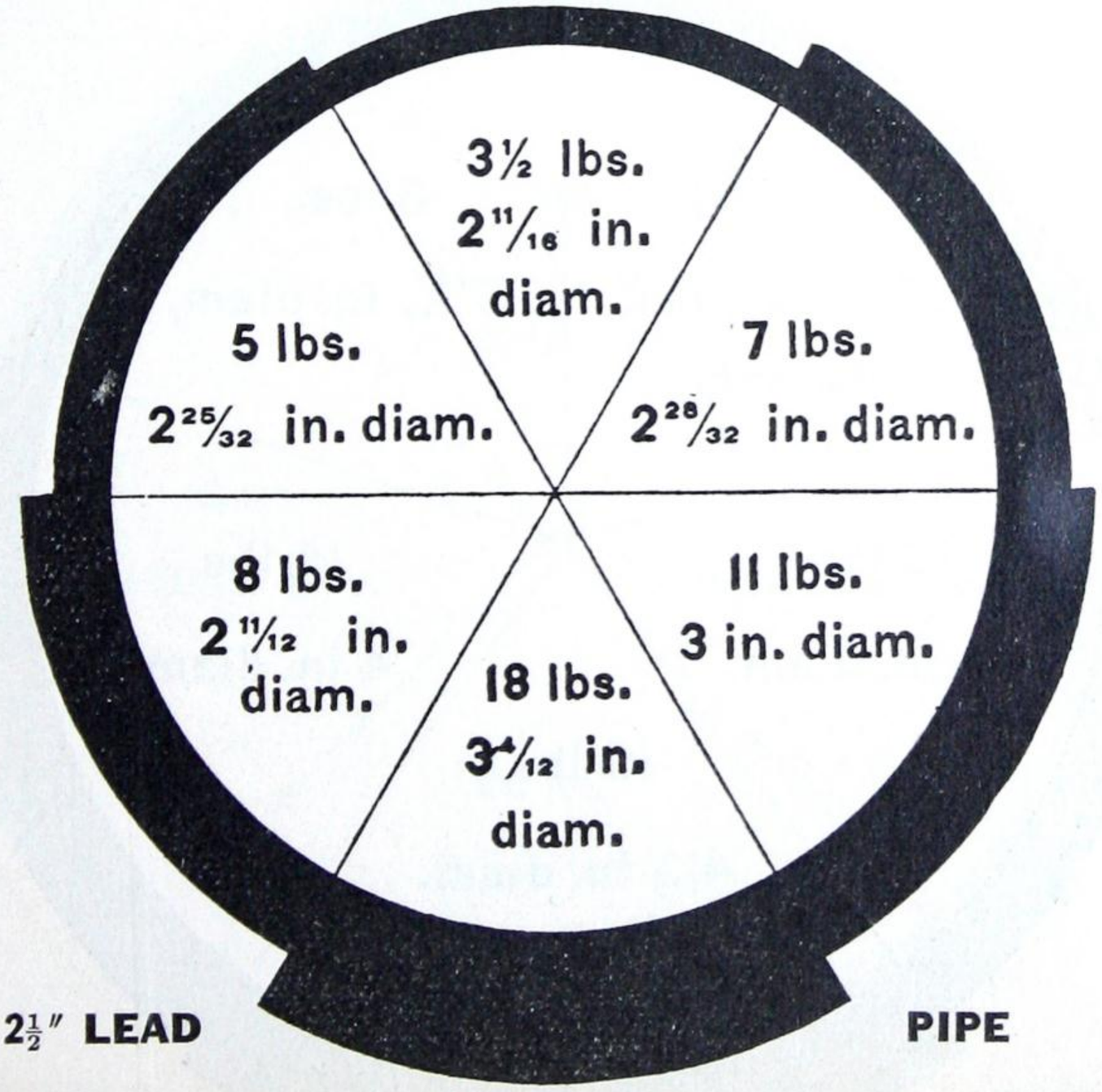
1″ LEAD PIPE


1¼ lbs.
1⁵⁄₁₆ in. diam.
2 lbs.
1⅜ in. diam.
2½ lbs.
1⁷⁄₁₆ in. diam.
3⅛ lbs.
1⁹⁄₁₆ in. diam.
4½ lbs.
1¹¹⁄₁₆ in. diam.
6 lbs.
1¾ in. diam.
9 lbs.
1¹⁵⁄₁₆ in. diam.
8 lbs.
1¹⁵⁄₁₆ in. diam.
7 lbs.
1¹³⁄₁₆ in. diam.
5 lbs.
1⅝ in. diam.
4 lbs.
1⅝ in. diam.
3 lbs.
1⁹⁄₁₆ in. diam.
2¼ lbs.
1⁷⁄₁₆ in. diam.
1¼" LEAD PIPE

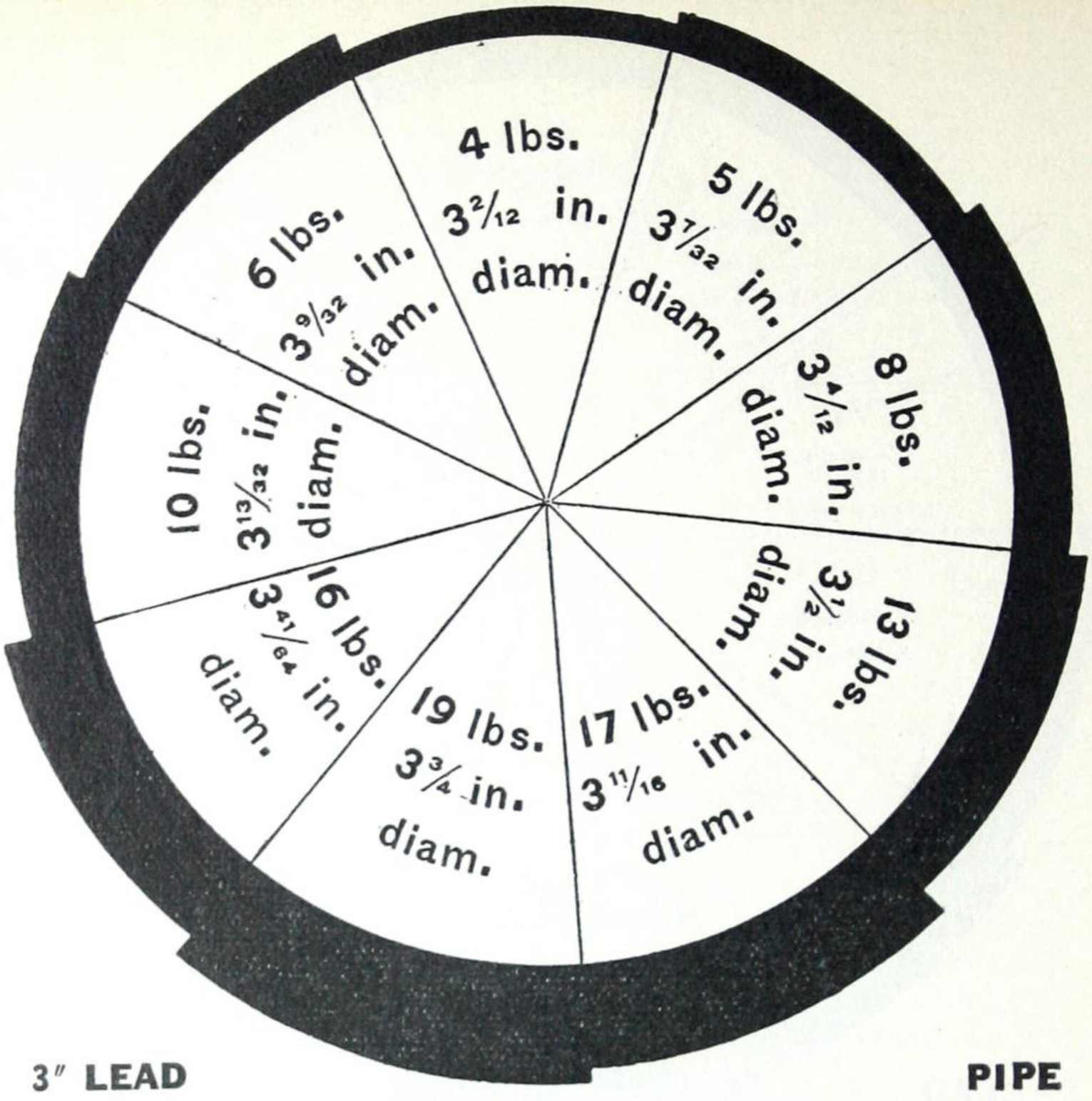

2 lbs.
1⅝ in. diam.
2 lbs. 8 oz.
1¾ in. diam.
3 lbs. 8 oz.
1¹⁵⁄₁₆ in. diam.
4 lbs. 8 oz.
2⅛ in. diam.
6 lbs.
2⅜ in. diam.
12 lbs.
2⅝ in. diam.
10 lbs.
2⅜ in. diam.
8 lbs.
2³⁄₁₆ in. diam.
7 lbs.
2¹⁄₁₆ in. diam.
5 lbs.
1¹⁵⁄₁₆ in. diam.
4 lbs.
1¹³⁄₁₆ in. diam.
3 lbs.
1¾ in. diam.
2 lbs.
1⅝ in. diam.
1½" LEAD PIPE



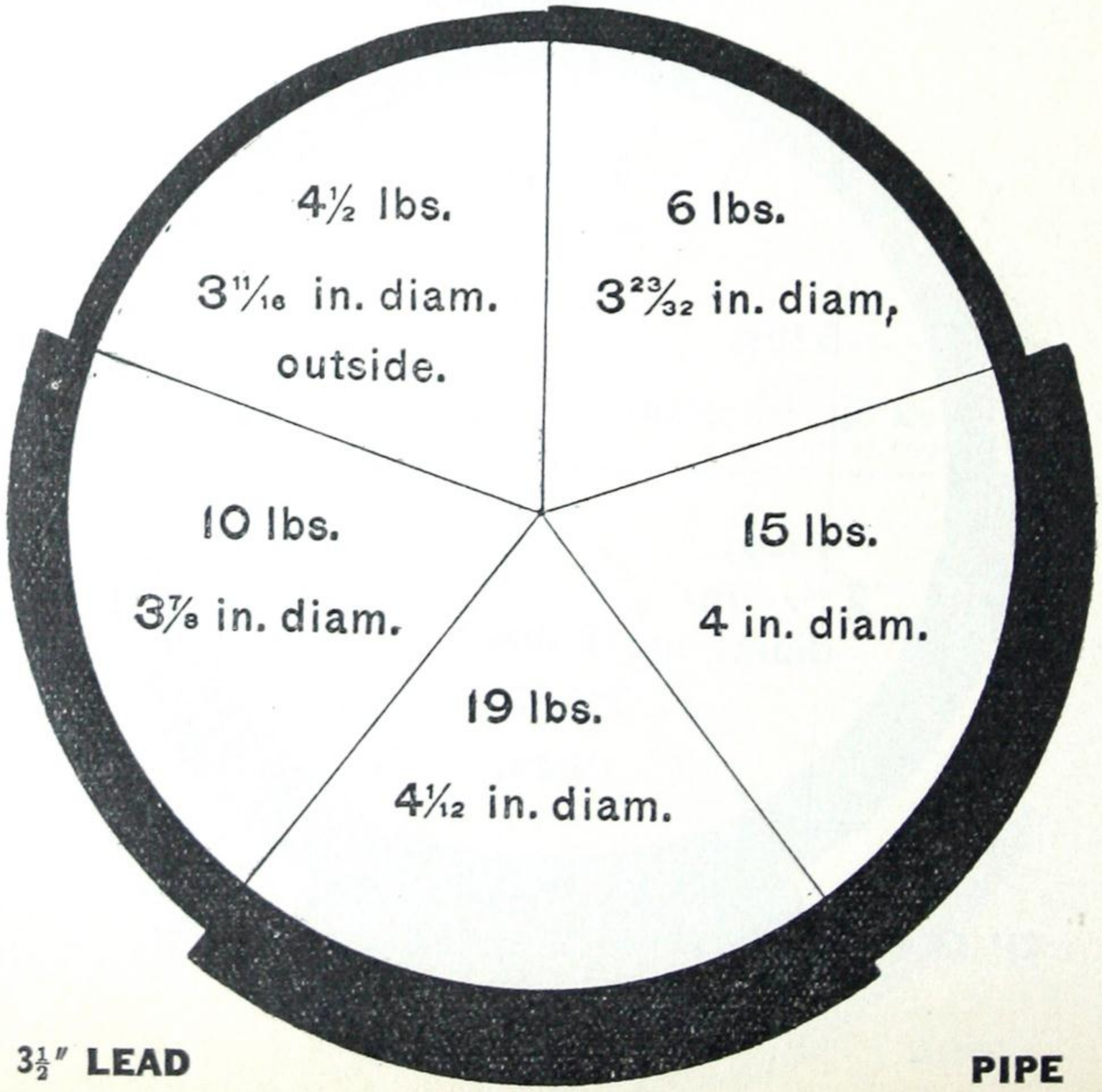
2″ LEAD PIPE



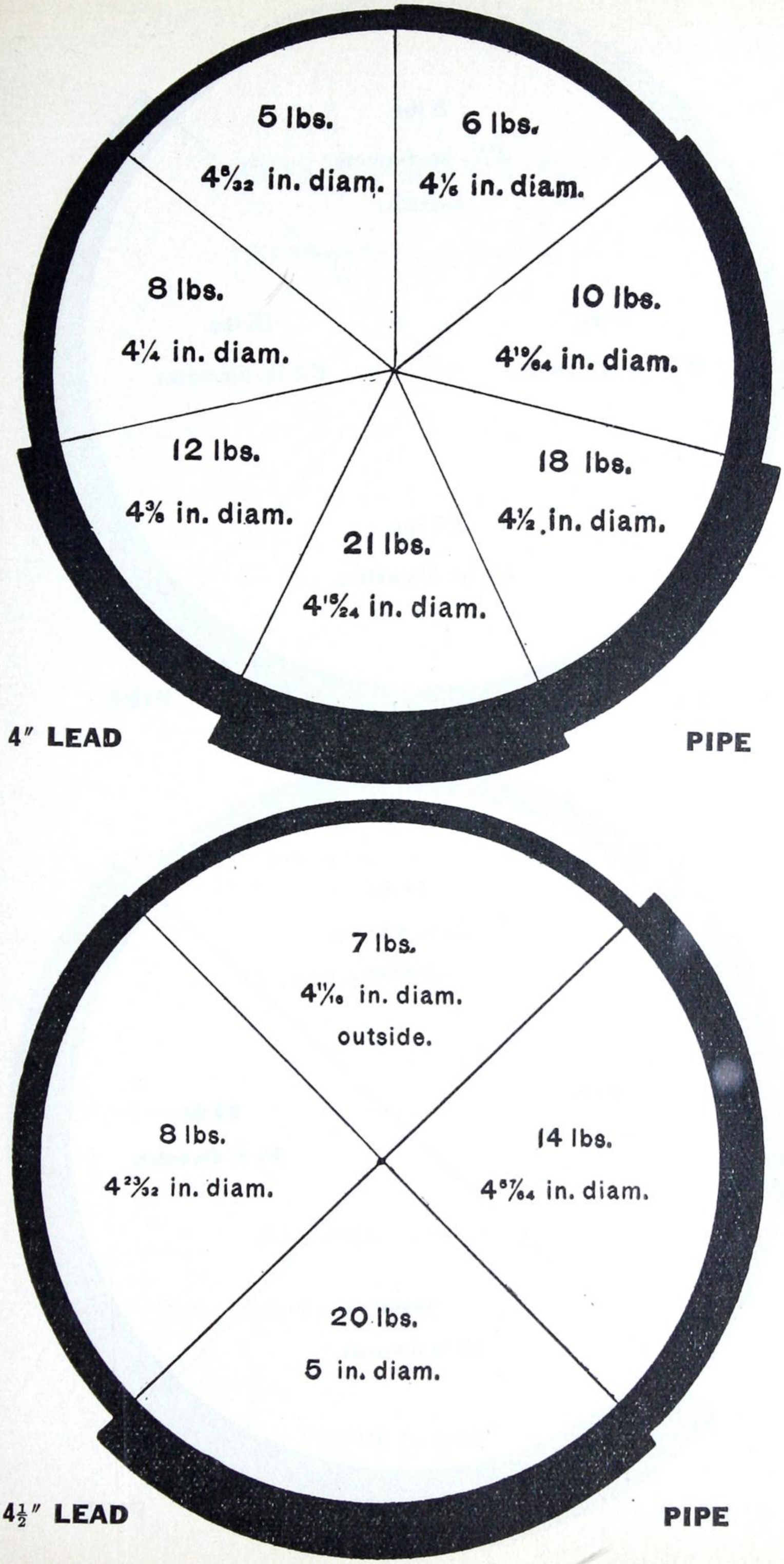
2½″ LEAD PIPE

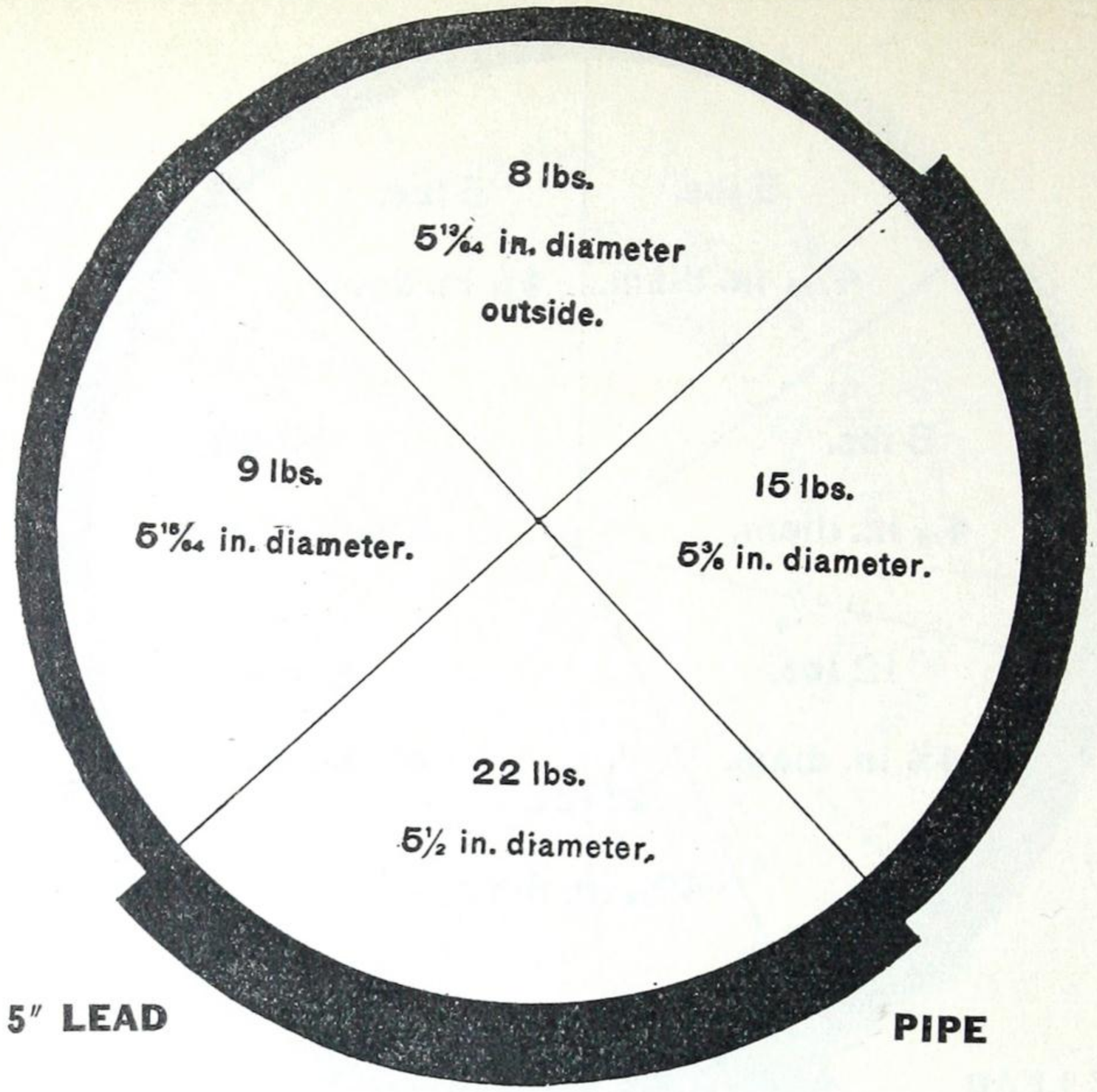


3″ LEAD PIPE

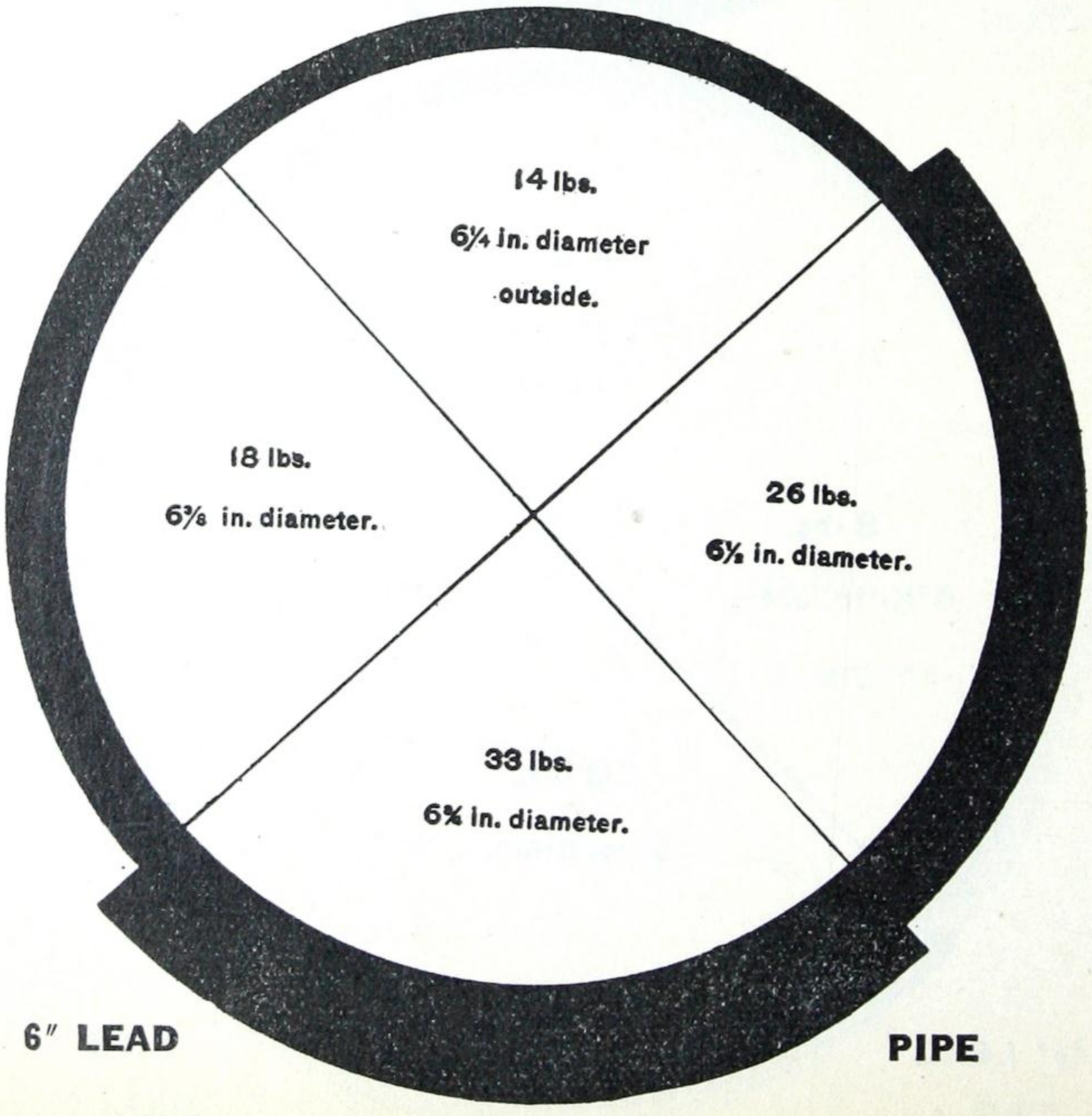


3½″ LEAD PIPE


5 lbs.
4⁸⁄₃₂ in. diam.
6 lbs.
4⅛ in. diam.
8 lbs.
4¼ in. diam.
10 lbs.
4¹⁹⁄₆₄ in. diam.
12 lbs.
4⅜ in. diam.
18 lbs.
4½ in. diam.
21 lbs.
4¹⁵⁄₂₄ in. diam.
4″ LEAD PIPE
7 lbs.
4¹¹⁄₁₆ in. diam.
outside.
8 lbs.
4²³⁄₃₂ in. diam.
14 lbs.
4⁵⁷⁄₆₄ in. diam.
20 lbs.
5 in. diam.
4½″ LEAD PIPE



5″ LEAD PIPE



6″ LEAD PIPE

PURE BLOCK-TIN PIPE.

FOR BREWERIES—A SPECIALTY.

Size, inches	Weight per foot
¼	3½-5 oz.
5/16	4-6½ "
⅜	4–5–6–8 "
½	6–8–10–12 "
⅝	7–9–13 "
¾	10–12 "
1	15–18 "
1¼	18–27 "
1½	24–36 "
2	26–40 "

Any size or weight per foot made to order.

BLOCK-TIN TUBING.

⅛-inch	1¾ oz. per foot
3/16 "	2¾ " "

TIN-LINED LEAD PIPE.

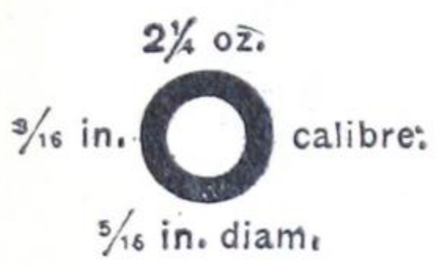
Same Weights and Sizes as Lead Pipe.

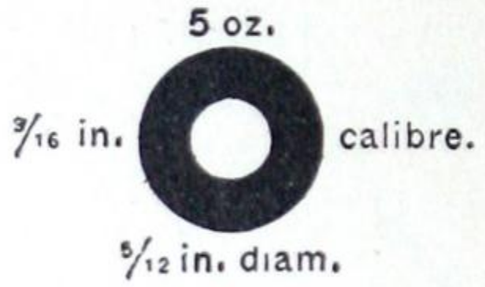
ORGAN TUBING.

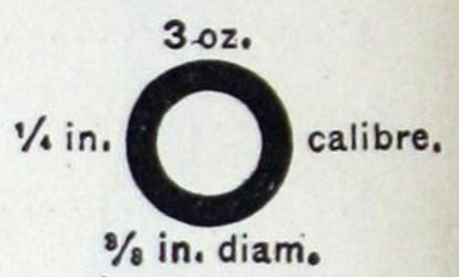
All Sizes.

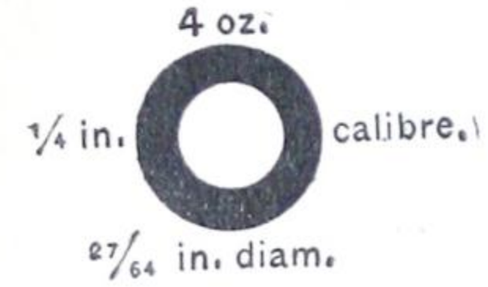
DIAGRAMS SHOWING THE CALIBRE AND OUTSIDE DIAMETER OF BLOCK TIN PIPE.

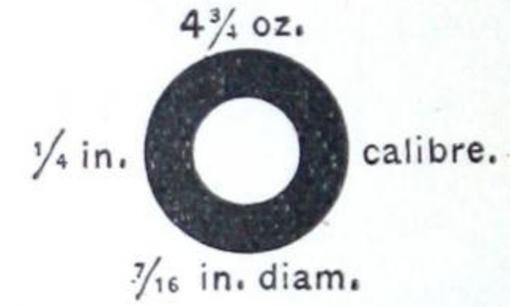
(Figures show weight per foot and outside diameter.)

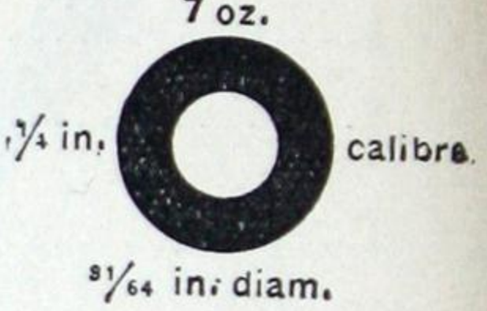














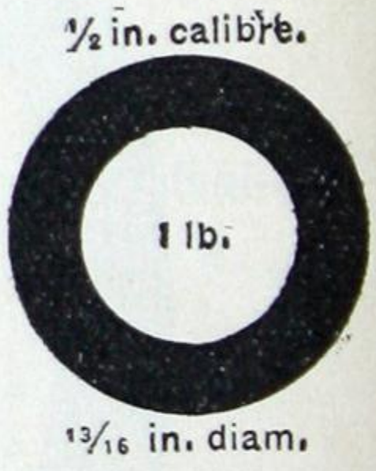


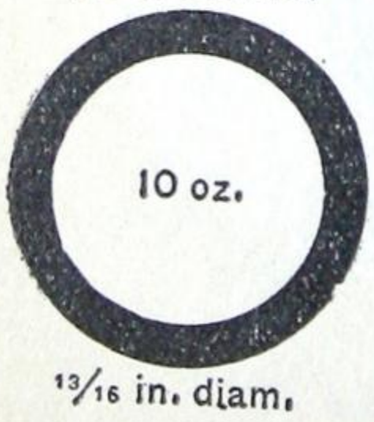


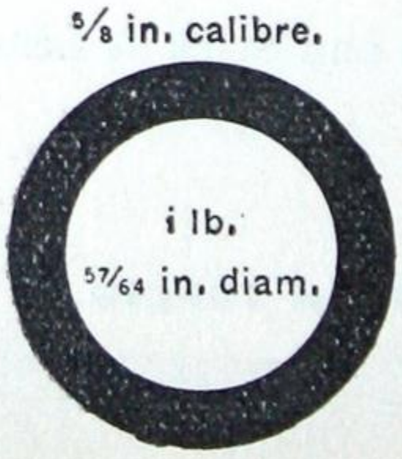


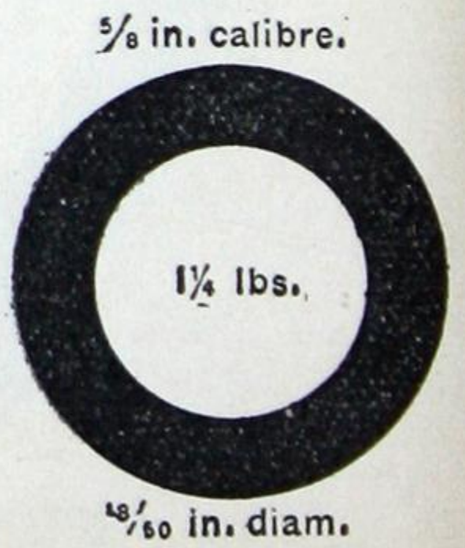


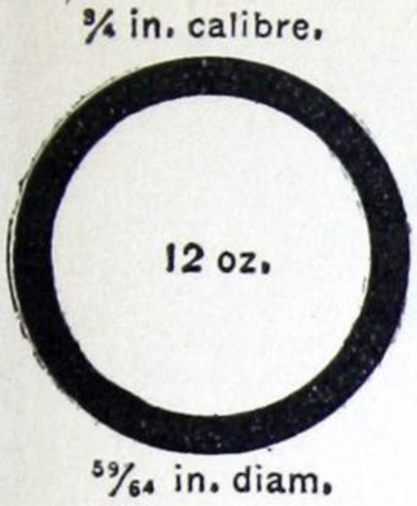








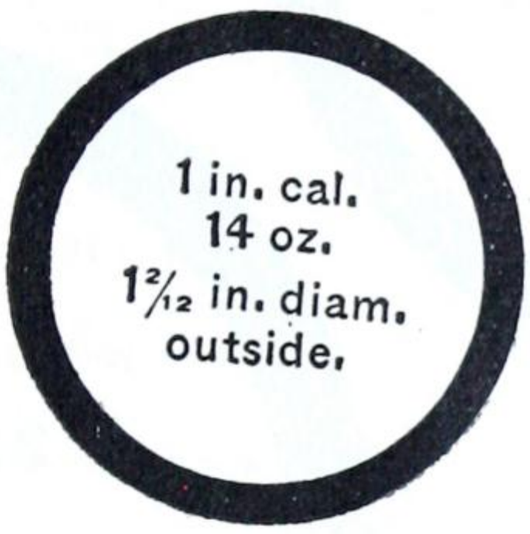



¾ in. calibre.
12 oz.
59/64 in. diam.

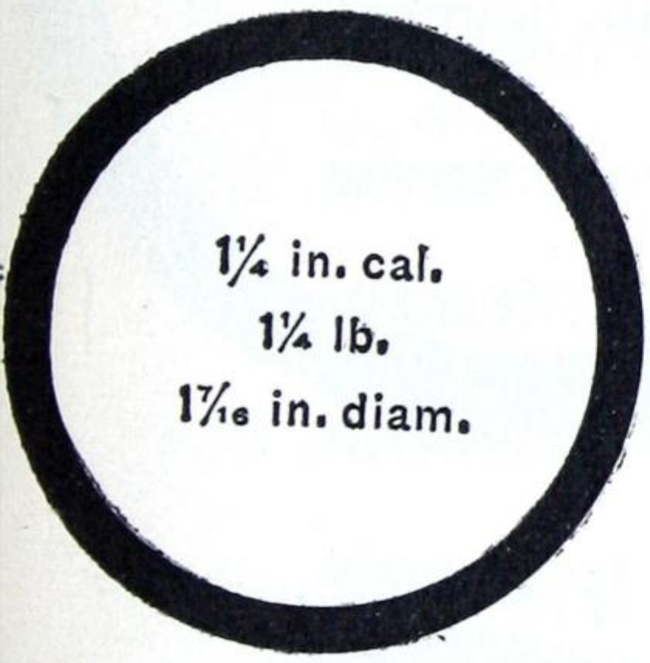

¾ in. calibre.
1 lb.
63/64 in. diam.

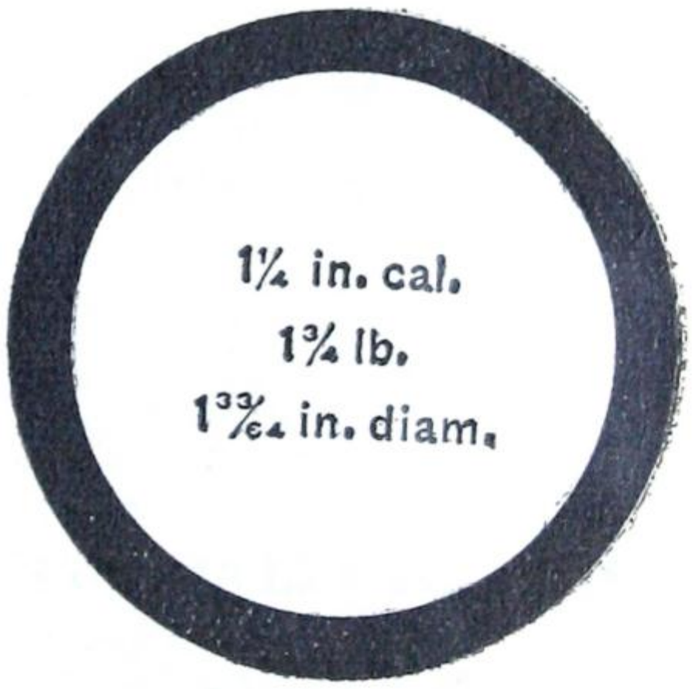

¾ in. calibre.
1¼ lbs.
1 1/32 in. diam.

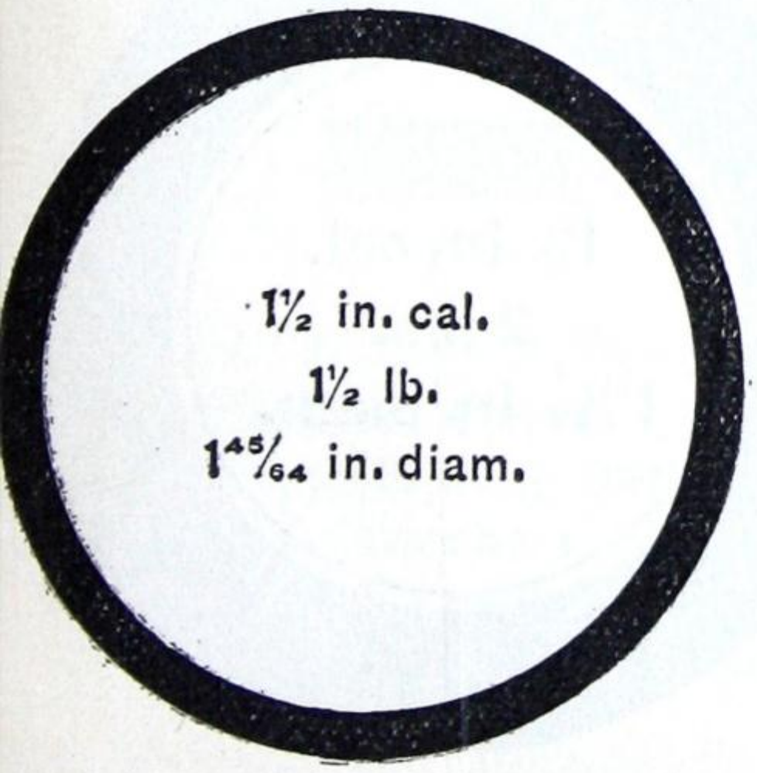

¾ in. calibre.
2 lbs.
1 2/12 in. diam.

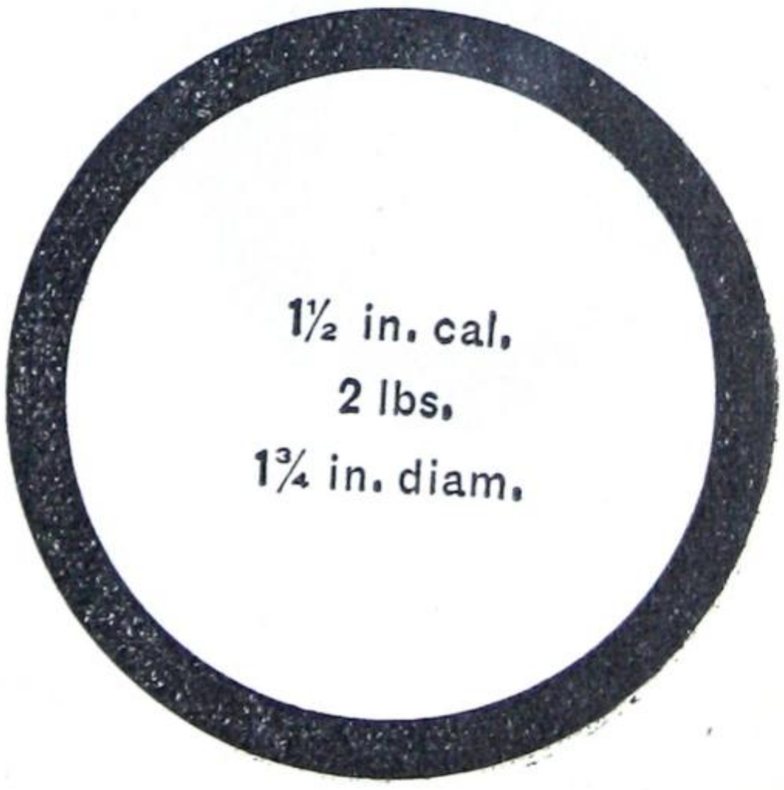

1 in. cal.
14 oz.
1 2/12 in. diam.
outside.

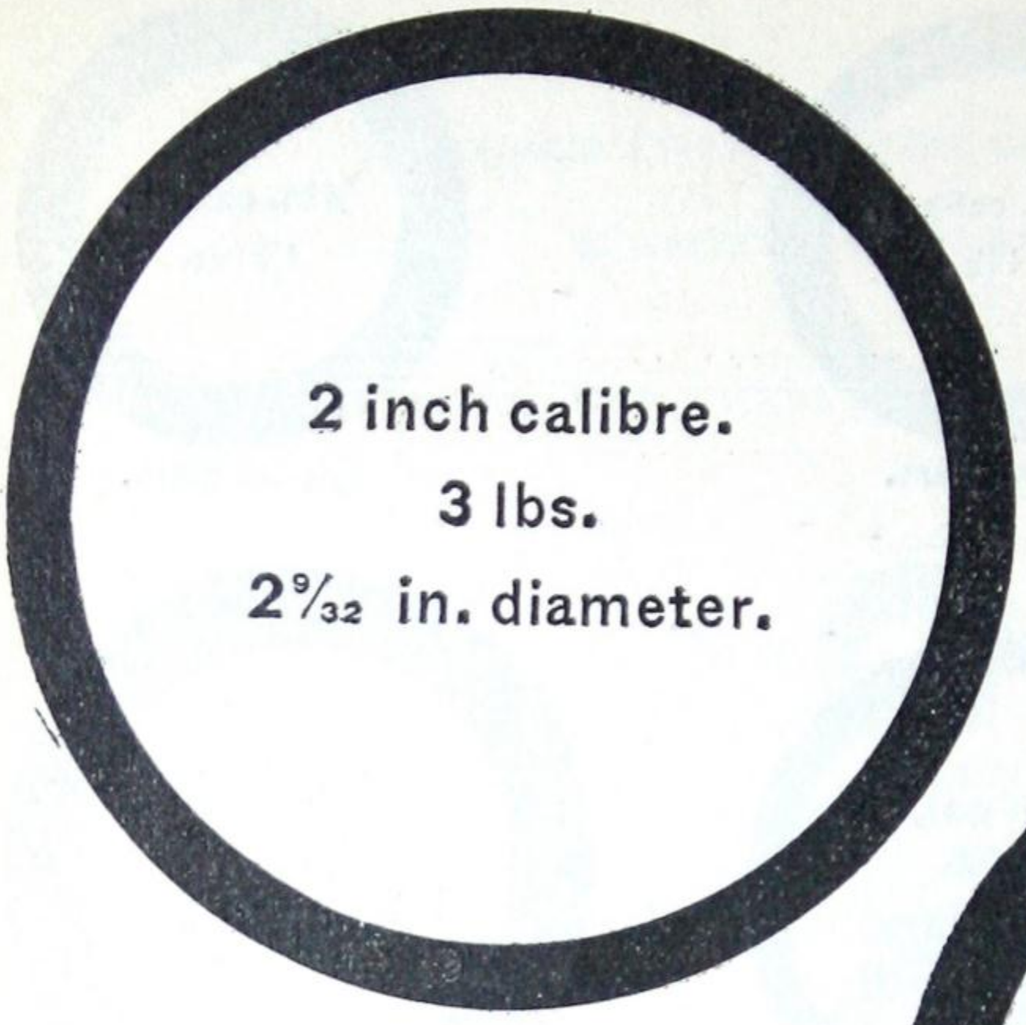

1 in. cal.
1¼ lb.
1 15/64 in. diam.

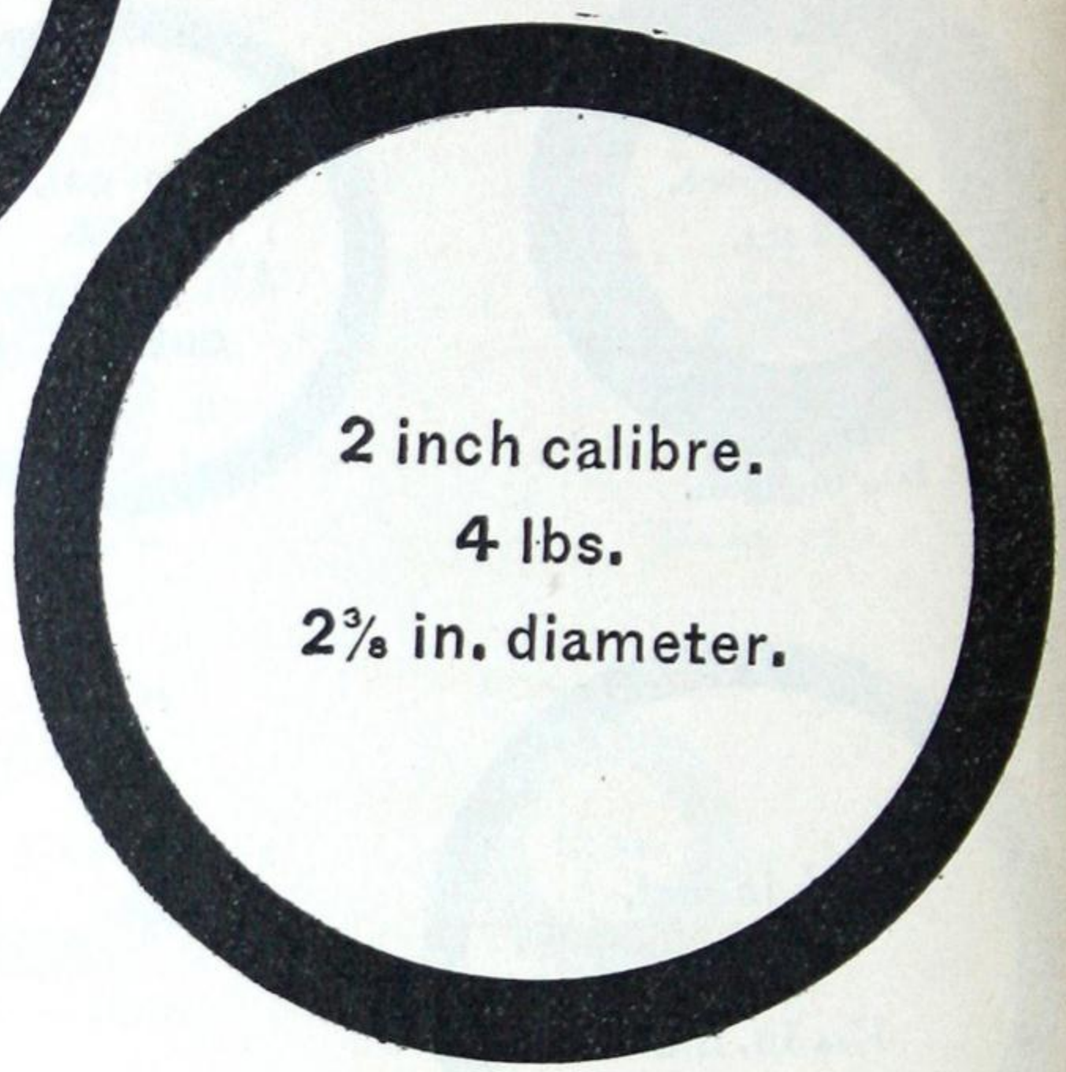

1¼ in. cal.
1¼ lb.
1 7/16 in. diam.


1¼ in. cal.
1¾ lb.
1 33/64 in. diam.


1½ in. cal.
1½ lb.
1 45/64 in. diam.

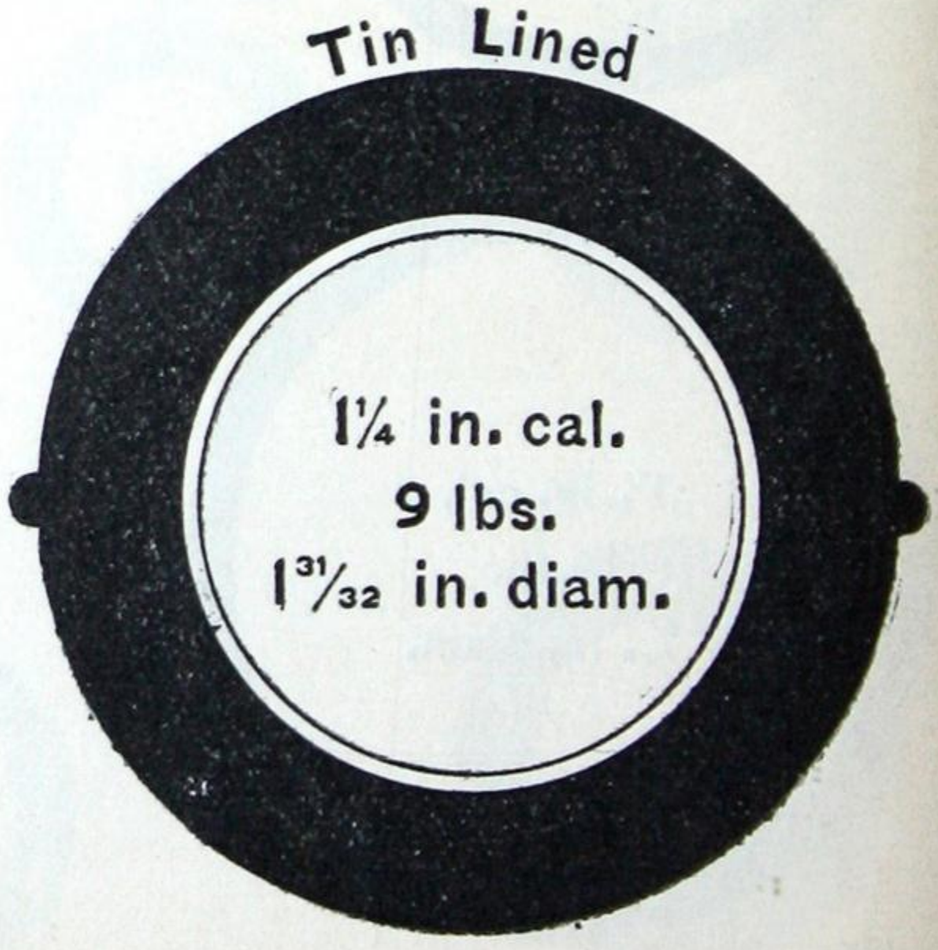

1½ in. cal.
2 lbs.
1¾ in. diam.





TIN LINED LEAD PIPE.





CHEMICAL SHEET LEAD.



12 oz.	.016	14 lbs.	7/32 inch
1 lb.	1/64 inch	16 lbs.	1/4 inch
1½ lbs.	1/43 inch	20 lbs.	5/16 inch
2 lbs.	1/32 inch	24 lbs.	3/8 inch
2½ lbs.	1/24 inch	32 lbs.	½ inch
3 lbs.	3/64 inch	60 lbs.	1 inch
4 lbs.	1/16 inch		
5 lbs.	5/64 inch		
6 lbs	3/32 inch		
7 lbs.	7/64 inch		
8 lbs.	1/8 inch		
10 lbs.	5/32 inch		
12 lbs.	3/16 inch		

We make a Specialty of Sheet Lead for—

Chemical Works
Sulphate Pulp Mills
Acid Chambers
Storage Tanks
Oil Refineries
Electrical Purposes
Roofers
Builders

Plumbing Purposes

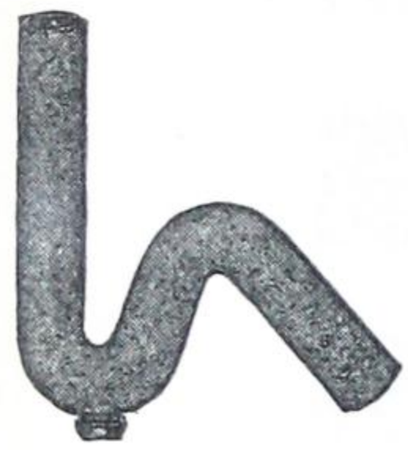
Special Shapes and Circles to Order.

DRAWN LEAD TRAPS AND BENDS.



S

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.58	.90	1.38	2.69	3.25
Extra Heavy.....	.87	1.25	1.85	3.09	4.30



¼ S

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.55	.81	1.30	2.62	3.07
Extra Heavy.....	.81	1.15	1.73	2.97	3.95



½ S or P

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.51	.75	1.20	2.24	2.49
Extra Heavy.....	.77	1.09	1.57	2.58	3.25



Running

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.48	.72	1.13	2.09	2.53
Extra Heavy.....	.70	1.03	1.46	2.35	3.28

DRAWN LEAD TRAPS AND BENDS.



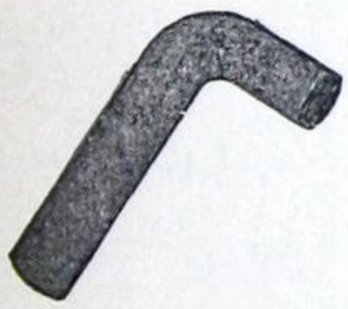
Running Y

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.52	.76	1.34	2.46	3.15
Extra Heavy.....	.74	1.09	1.61	2.88	4.05



Bag

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.68	1.08	1.73	3.35	4.77
Extra Heavy.....	1.06	1.54	2.33	3.96	6.30



Short Bend

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.35	.55	.80	1.50	1.80
Extra Heavy.....	.60	.85	1.10	1.60	2.25



Long Bend

Sizes.....	1¼″	1½″	2″	3″	4″
Standard.....	.40	.65	1.05	1.75	2.40
Extra Heavy.....	.65	1.00	1.35	2.00	3.00

DRAWN LEAD TRAPS AND BENDS.

EXTRA LONG.

With or Without Vent.

	STANDARD WEIGHT					
	1¼″		1½″		2″	
		With Vent		With Vent		With Vent
Full S	1.12	1.92	1.65	2.60	2.30	3.25
¾ S	.99	1.79	1.40	2.35	1.94	2.89
½ S, or P	.84	1.64	1.17	2.12	1.68	2.63
Running	.96	1.76	1.35	2.30	1.87	2.82
Running Y	.96	1.76	1.35	2.20	1.98	2.93
Bag	1.18	1.98	1.74	2.69	2.45	3.40

	EXTRA HEAVY WEIGHT					
	1¼″		1½″		2″	
		With Vent		With Vent		With Vent
Full S	1.68	2.48	2.25	3.20	3.00	3.95
¾ S	1.47	2.27	1.93	2.88	2.53	3.48
½ S, or P	1.27	2.07	1.65	2.60	2.17	3.12
Running	1.42	2.22	1.88	2.83	2.39	3.34
Running Y	1.40	2.20	1.87	2.82	2.41	3.36
Bag	1.81	2.61	2.42	3.37	3.23	4.18

DIMENSION SCALE FOR EXTRA-LONG TRAPS.

Showing length over all of S and Bag Traps and inlet and outlet of 3–4 S, 1-2 S Running and Running Y

Measurements taken as shown by arrows on cuts of Reg. Traps	FULL S	¾ S		½ S or P	
	Length Over All	Inlet	Outlet	Inlet	Outlet
1¼ inch	24 inches	4¼ inches	16¼	4½ inches	14¾
1½ inch	24 inches	4½ inches	15¾	4½ inches	14⅛
2 inch	24 inches	4½ inches	15½	4½ inches	14¼

Measurements taken as shown by arrows on cuts of Reg. Traps	RUNNING		RUNNING Y		BAG
	Inlet	Outlet	Inlet	Outlet	Length Over All
1¼ inch	4½ inches	17½	4½ inches	16¼	24 inches
1½ inch	5¼ inches	16¾	5¾ inches	15¾	24 inches
2 inch	5¼ inches	16¾	5¼ inches	15½	24 inches

DRAWN LEAD TRAPS AND BENDS.

EXTENSION BENDS.

Short Inlet Ends are same dimensions as Inlets on Short Bends of corresponding size.

Long Inlet Ends are the same as on Long Bends.

	STANDARD WEIGHT				
	1¼″	1½″	2″	3″	4″
Short Inlet End x 12″ on Outlet End...	.59	.85	1.14	1.95	2.10
" " x 15″ " " ...	.71	1.03	1.38	2.31	2.55
" " x 18″ " " ...	.83	1.21	1.62	2.67	3.00
" " x 20″ " " ...	.91	1.33	1.78	2.91	3.30
Long Inlet " x 12″ " " ...	.64	1.01	1.39	2.20	2.70
" " x 15″ " " ...	.76	1.19	1.63	2.56	3.15
" " x 18″ " " ...	.88	1.37	1.87	2.92	3.60
" " x 20″ " " ...	.96	1.49	2.03	3.16	3.90

	EXTRA HEAVY WEIGHT				
	1¼″	1½″	2″	3″	4″
Short Inlet End x 12″ on Outlet End...	.96	1.25	1.53	2.16	2.61
" " x 15″ " " ...	1.14	1.49	1.83	2.61	3.15
" " x 18″ " " ...	1.32	1.73	2.13	3.06	3.69
" " x 20″ " " ...	1.44	1.89	2.33	3.36	4.05
Long Inlet " x 12″ " " ...	1.01	1.40	1.78	2.57	3.36
" " x 15″ " " ...	1.19	1.64	2.08	3.02	3.90
" " x 18″ " " ...	1.37	1.88	2.38	3.47	4.44
" " x 20″ " " ...	1.49	2.04	2.58	3.77	4.80

EXTRAS.

For each inch of excess length over listed size on any shape of Trap or Bend, add to the list of nearest listed size.

	1¼″	1½″	2″	3″	4″	
STANDARD WEIGHT.....	4	6	8	12	15c.	per inch.
EXTRA HEAVY WEIGHT.....	6	8	10	15	18	" "

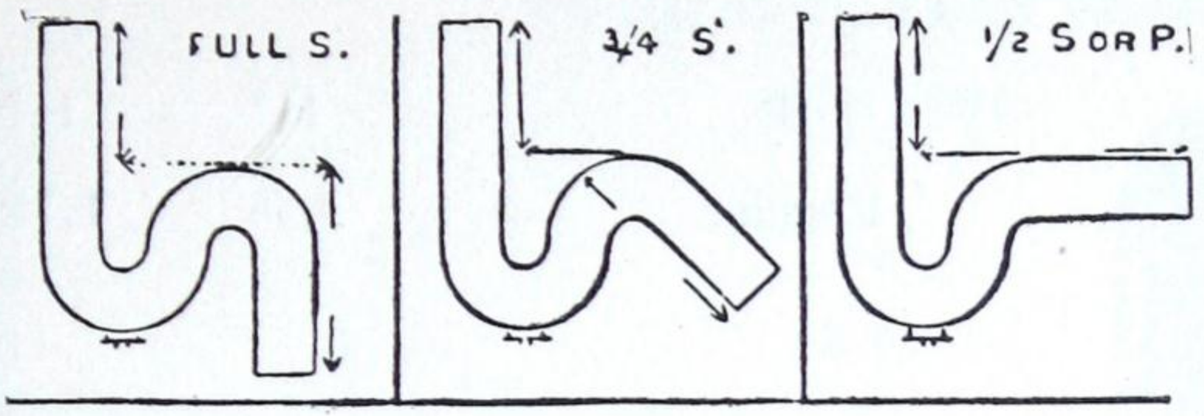
DRAWN LEAD TRAPS AND BENDS.

REGULAR TRAPS VENTED.

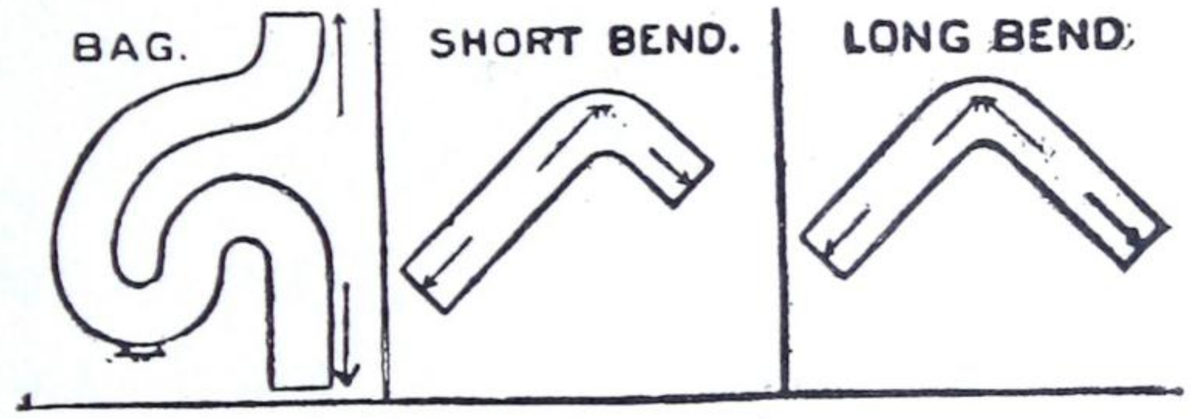
REGULAR TRAPS VENTED	STANDARD WEIGHT				
	1¼″	1½″	2″	3″	4″
Full S	1.38	1.85	2.33	3.94	4.50
¾ S	1.35	1.76	2.25	3.87	4.32
½ S, or P	1.31	1.70	2.15	3.49	3.74
Running	1.28	1.67	2.08	3.34	3.78
Running Y	1.32	1.71	2.29	3.71	4.40
Bag	1.48	2.03	2.68	4.60	6.02
	EXTRA HEAVY WEIGHT				
Full S	1.67	2.20	2.80	4.34	5.55
¾ S	1.61	2.10	2.68	4.22	5.20
½ S, or P	1.57	2.04	2.52	3.83	4.50
Running	1.50	1.98	2.41	3.60	4.53
Running Y	1.54	2.04	2.56	4.13	5.30
Bag	1.86	2.49	3.28	5.21	7.55

DRAWN LEAD TRAPS AND BENDS.

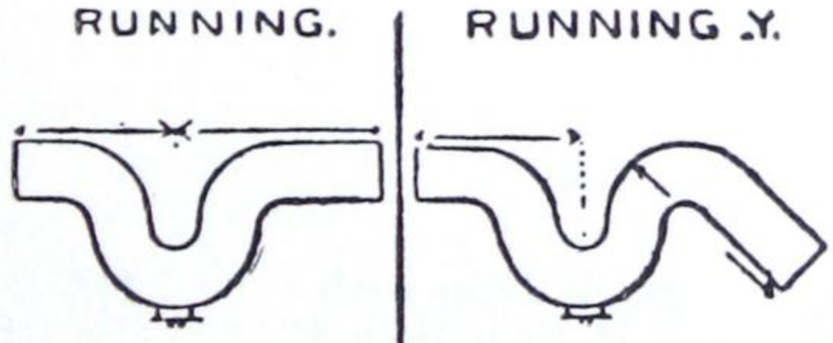
Dimension Scale.



	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
1¼″	4¼ inches	6¼	4¼ inches	5¼	4½ inches	6
1½″	4½ "	7	4½ "	6	4½ "	7
2″	4½ "	8	4½ "	7½	4½ "	8
3″	4 "	10½	4 "	10	4 "	9½
4″	3¼ "	11½	3½ "	11	3½ "	10

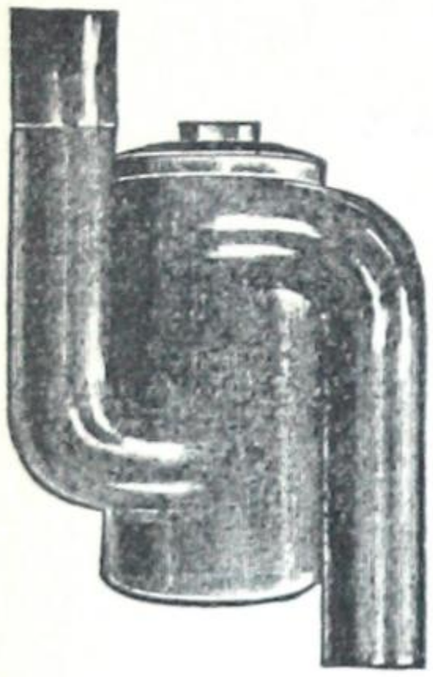


	Length Over All	Centre to Ends	Centre to Ends
1¼″	11½ inches	6 inches 3½	6 inches
1½″	13 "	7 " 4	7 "
2″	15 "	7¾ " 3¾	7¾ "
3″	18½ "	8¼ " 4¼	8¼ "
4″	22½ "	10 " 5½	10 "



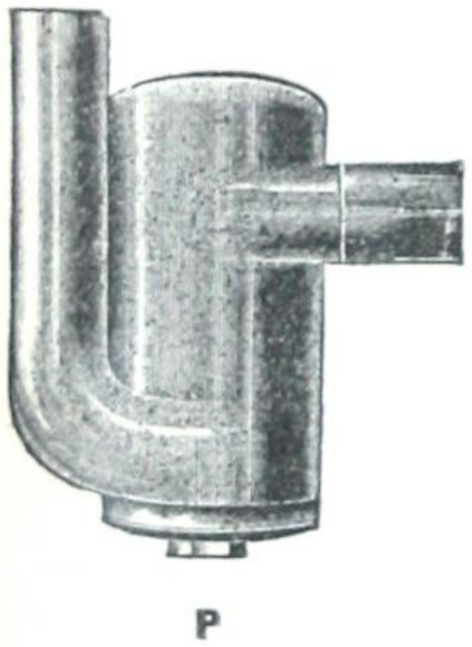
	Inlet	Outlet	Inlet	Outlet
1¼″	4½ inches	5½	4½ inches	5¼
1½″	5¼ "	6¼	5¼ "	6
2″	5¼ "	7½	5¼ "	7½
3″	7½ "	7½	7½ "	10
4″	8 "	8	8 "	11

IMPROVED WHIRLPOOL LEAD TRAPS.



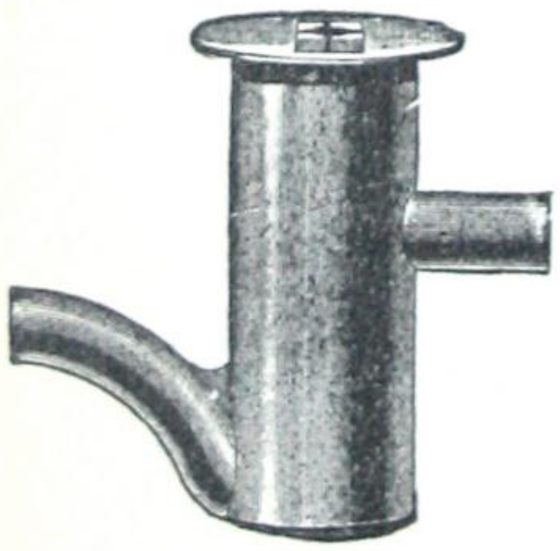
S

S	1¼″	1½″	2″
Regular	1.35	1.75	2.50



P

P	1¼″	1½″	2″
Regular	1.25	1.50	2.25



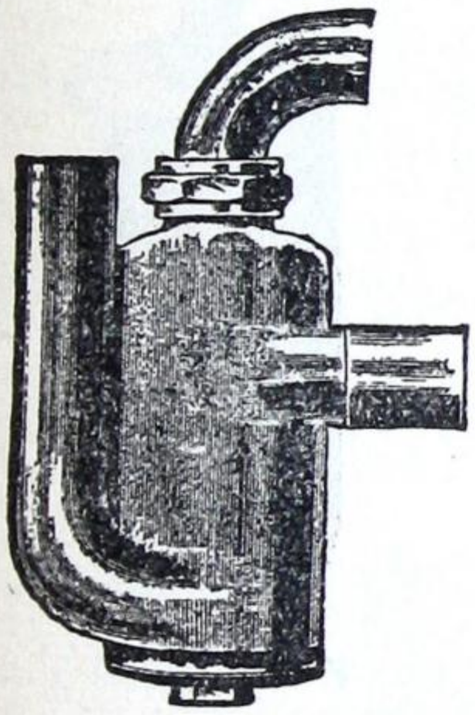
Bath Trap with N. P. or polished brass flanged top	1¼″	1½″	2″
	1.55	2.00	2.50



S

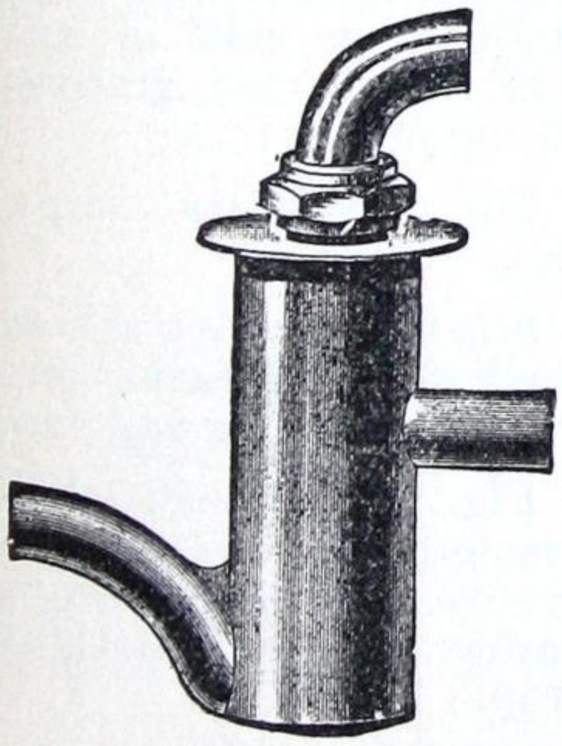
IMPROVED
WHIRLPOOL LEAD TRAPS.
WITH VENT.

$1\frac{1}{4}''$	$1\frac{1}{2}''$	$2''$
2.10	2.65	3.35



P

$1\frac{1}{4}''$	$1\frac{1}{2}''$	$2''$
2.00	2.30	3.20



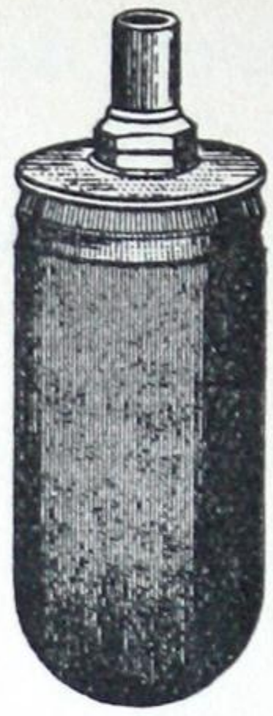
Bath Trap.

$1\frac{1}{4}''$	$1\frac{1}{2}''$	$2''$
2.20	2.80	3.70

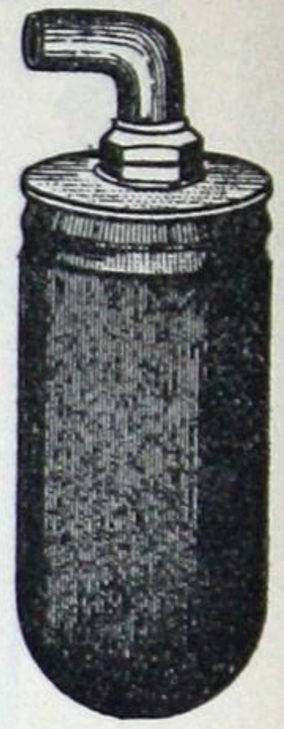
IMPROVED LEAD DRUM TRAPS (Patented)



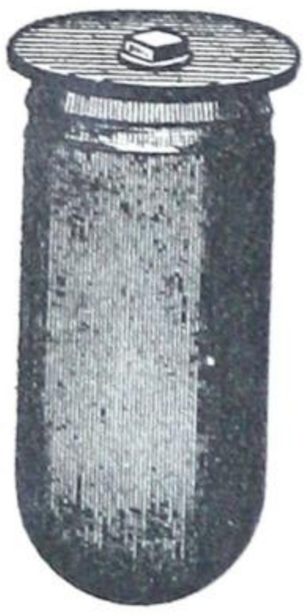
A—$1.90
20 cents



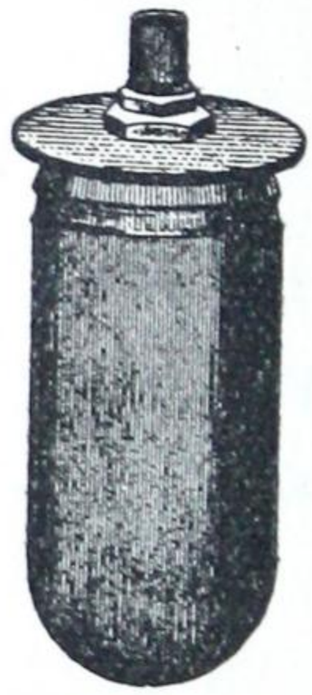
C-1—$2.60
N.P. or Polished Tops, Extra.
30 cents



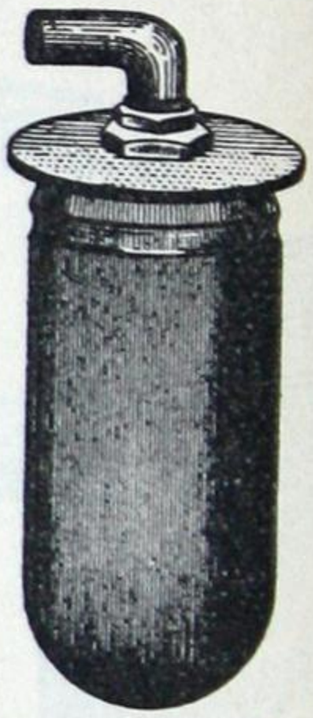
C-2—$3.00
30 cents



E-5—$2.00
20 cents



F 1-6—$2.80
N. P. or Polished Tops, Extra
30 cents



F 2-7—$3.20
30 cents

OUR PATENT

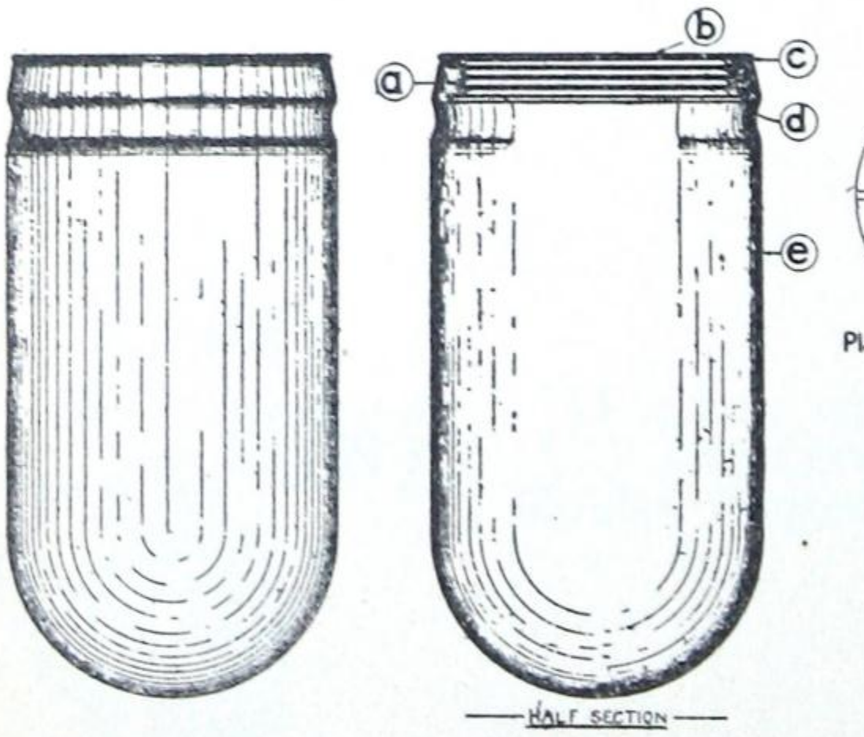


Fig. A.—Brass screw ring with two longitudinal grooves on side of the ring, also cross grooves on top of ring.

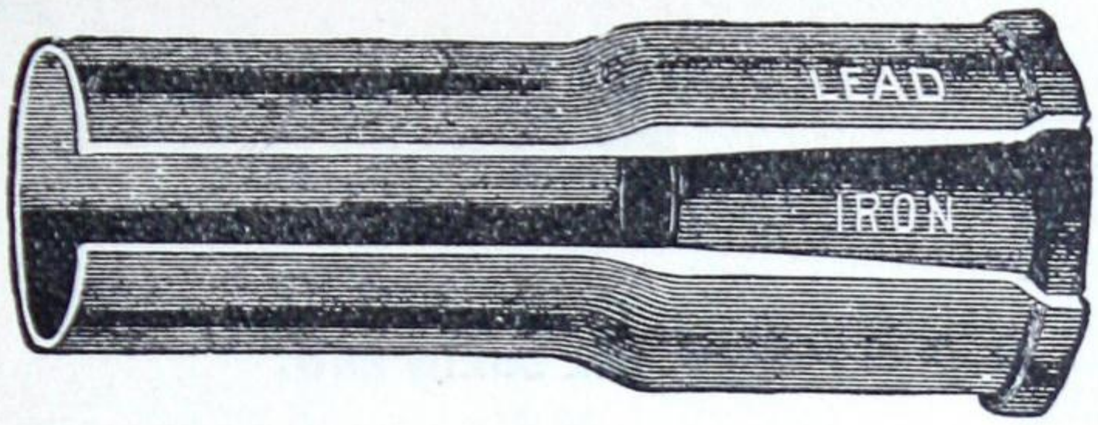
Fig. B.—Brass screw cap.

Fig. C.—Overlap of lead shell, forming gasket between screw ring and cap.

Fig. D. — Lead shell pressed into side and top grooves of ring, forming a perfect gas and airtight trap.

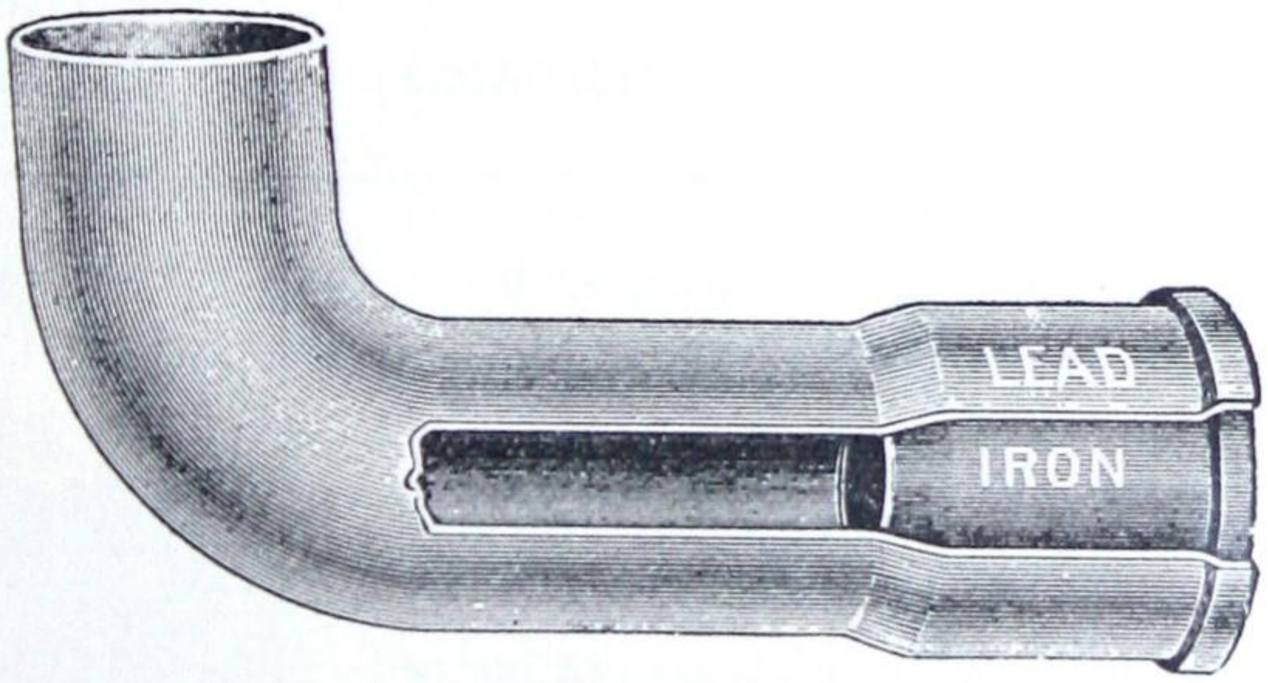
Fig. E.—Solid drawn lead shell.

COMBINATION DRAWN LEAD AND IRON FERRULES AND BENDS.



Ferrule

Length	4″	4½″	5″	6″	8″	10″	12″	14″	16″	18″	20″	24″	30″	36″
1½ for 2″ C.I.P....	....	.28	.36	.43	.51	.60	.67	.70	.76	.86	.95	1.10	....	....
2 " 2″ " ...	.28	....	.41	.46	.57	.67	.76	.80	.86	.92	1.00	1.15	1.40	1.65
3 " 3″ "	.42	....	.60	.67	.82	.98	1.10	1.15	1.22	1.30	1.40	1.60	2.00	2.30
4 " 4″ "	.50	....	.72	.85	1.02	1.25	1.40	1.60	1.73	1.85	2.10	2.30	2.75	3.25



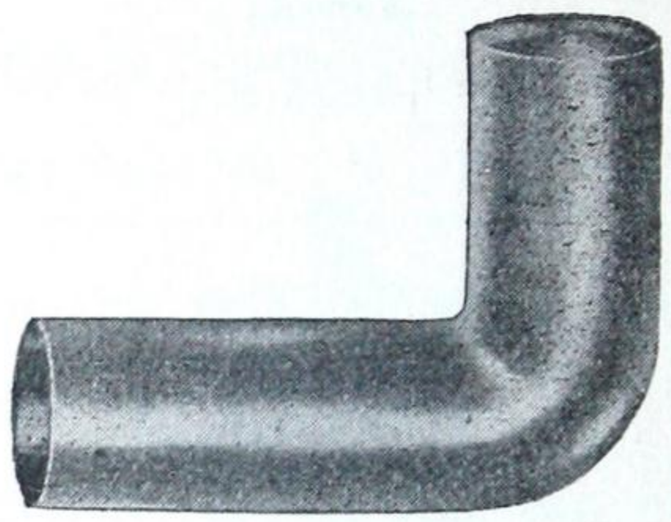
Bend.

Length of Outlet End	12″ or less	13″	14″	15″	16″	17″	18″	19″	20″	21″	22″
4″ short 5½″....	2.20	2.32	2.44	2.50	2.62	2.74	2.80	2.92	2.98	3.10	3.22
4″ long 10″.....	2.65	2.77	2.89	2.94	3.06	3.18	3.23	3.35	3.42	3.54	3.66

DRAWN LEAD BENDS.

(For Testing.)

WITH ONE SOLID END.



4-inch

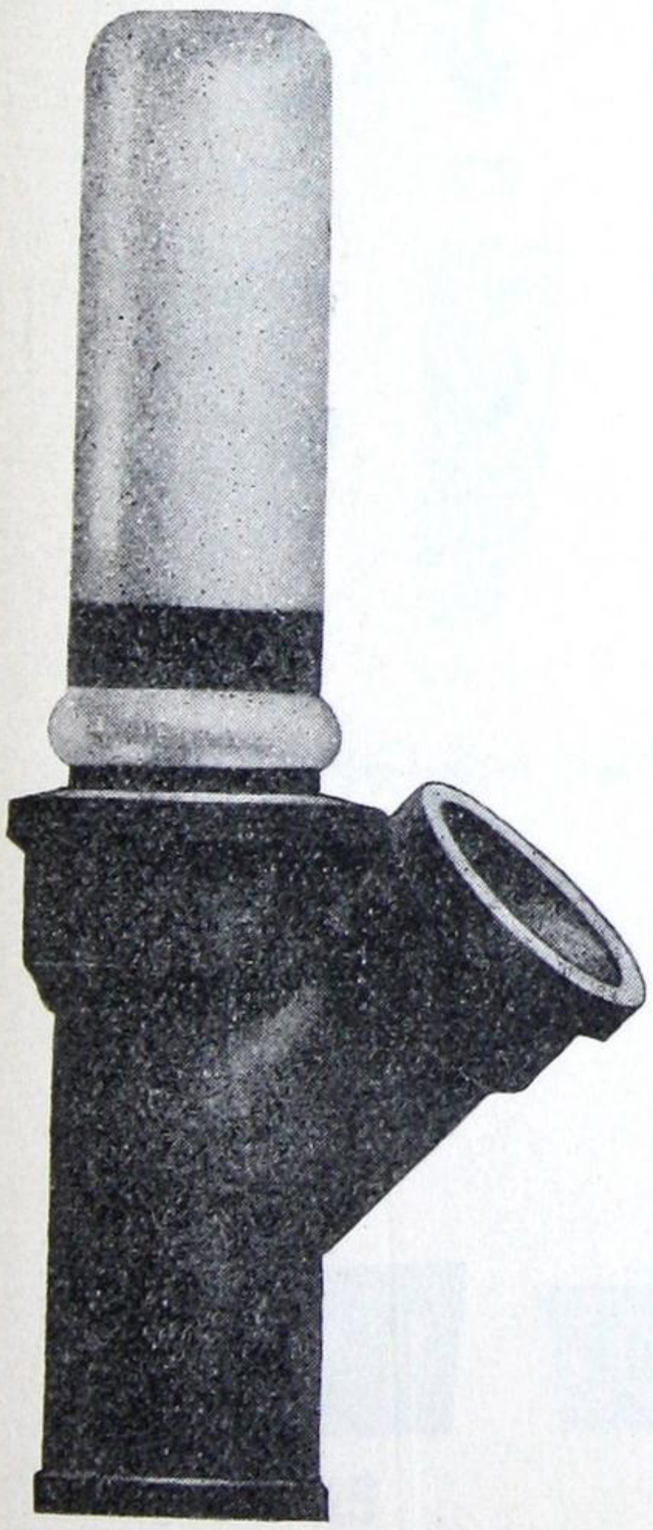
	STANDARD	EXTRA HEAVY
6″ x 10″	$2.40	$2.85
6″ x 12″	2.70	3.21
6″ x 15″	3.15	3.75
6″ x 18″	3.60	4.29
6″ x 20″	3.90	4.65
10″ x 10″	3.00	3.60
10″ x 12″	3.30	3.96
10″ x 15″	3.75	4.50
10″ x 18″	4.20	5.04
10″ x 20″	4.50	5.40

COMBINATION LEAD AND BRASS SOLDERING NIPPLES.

ONE CLOSED END FOR TESTING PURPOSES.

4″ x 5″	$2.55
4″ x 6″	2.75
4″ x 8″	2.95
4″ x 10″	3.05
4″ x 12″	3.35
4″ x 14″	3.75
4″ x 16″	3.95
4″ x 18″	4.05



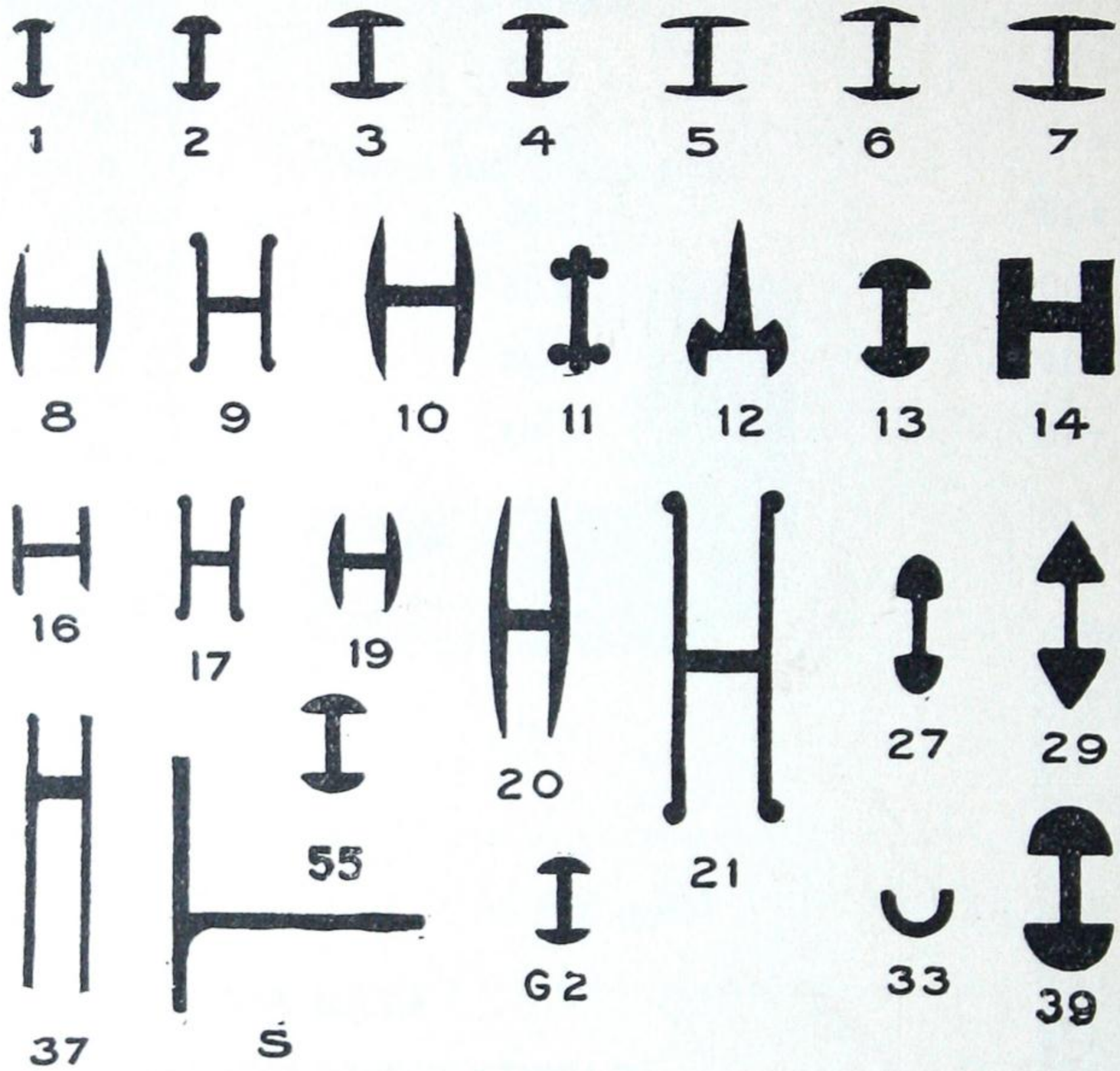


LEAD PIECES.

WITH CLOSED END FOR TESTING PURPOSES.

4 inch 8-lb. Lead Waste Pipe 10, 12, 14, 16 or 18 inches long, with one end spun tight ready for testing. Saves time and solder. We furnish the lead pipe at regular market price per pound and charge 25c. net for spinning each piece. After testing cut off roun end, flange down, and connect fixture.

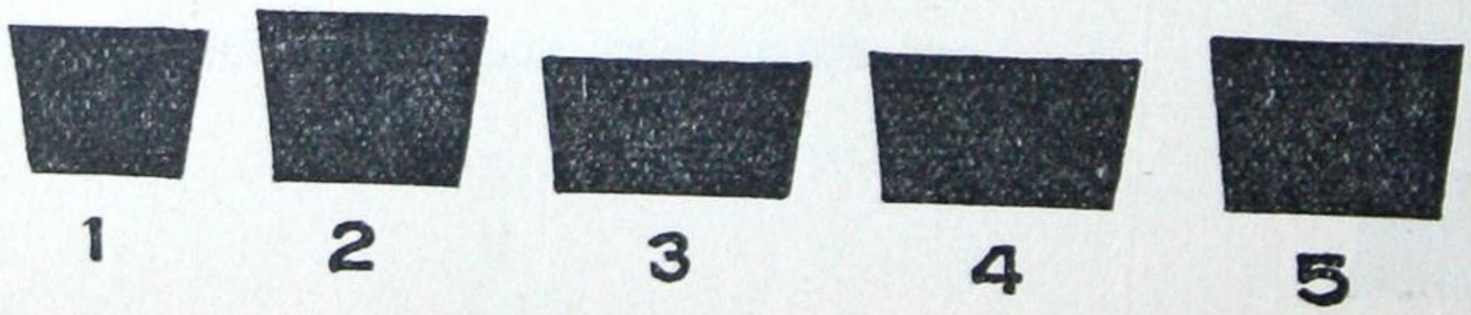
LEAD CAMES.



Any shape made to order.

We also make Zinc and Copper Cames.

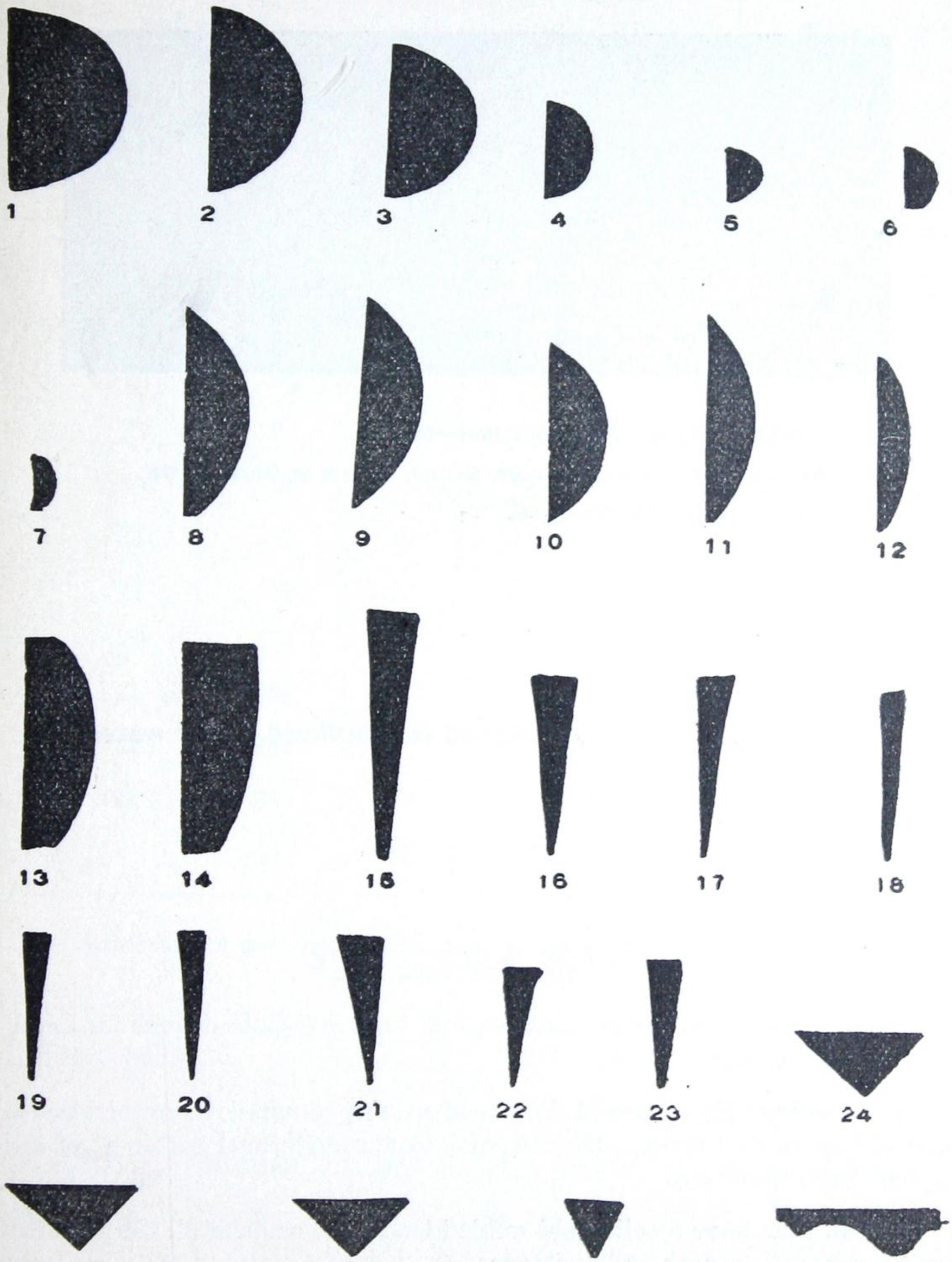
PIANO KEY LEADS



WEDGE LEAD AND MOULDINGS.

FULL SIZE.

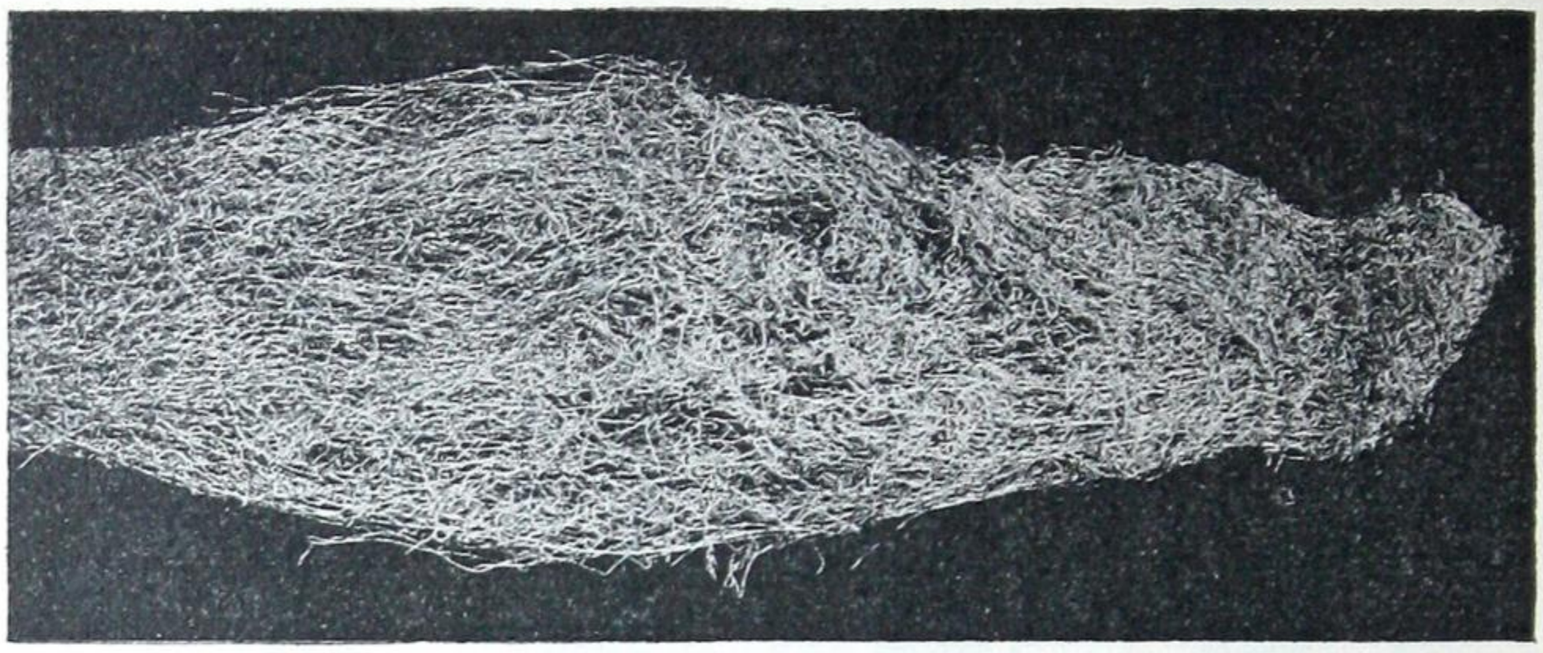
CROSS SECTION VIEWS



Any pattern or size made to order.

LEAD YARN.

FOR GAS AND WATER PIPE JOINTS.



SAVES Time, Wage and Material.

AVOIDS Accidents through Burns, Bursts or Blowing Off.

ASSURES Double Strength.

Lead Yarn is specially designed for caulking under water.

RULES WHEN USING.

Fill sockets with hemp yarn caulked well in, leave space enough for Lead Yarn as per table on next page.

Twist the Yarn into a strand the size of opening required, wrap this once around the pipe and caulk well home. Do this with each strand until within $\frac{1}{8}''$ of inside of socket (not flush with top).

You will then have a solid cold welded lead joint caulked all the way through, giving the greatest strength and resistance.

A good heavy hammer and caulking tool that fits will assure a good job. Do not use a sharp chisel or any tool that will cut the yarn.

QUANTITY OF LEAD YARN REQUIRED.

WHEN USING CAST LEAD			WHEN USING LEAD YARN				
	GAS PIPES			GAS PIPES		WATER PIPES	
Diameter of pipe in inches	Depth of lead ring in inches	Weight of lead per socket in lbs.	Diameter of pipe in inches	Depth of lead ring in inches	Weight of lead per socket in lbs. ozs.	Depth of lead ring in inches	Weight of lead per socket in lbs. ozs.
3	$1\frac{5}{8}$	$2\frac{3}{4}$	3	$1\frac{1}{16}$	1 9	$1\frac{3}{16}$	1 12
4	$1\frac{3}{4}$	4	4	$1\frac{1}{16}$	2 0	$1\frac{3}{16}$	2 3
5	$1\frac{7}{8}$	$5\frac{1}{2}$	5	$1\frac{1}{16}$	2 7	$1\frac{3}{16}$	2 13
6	2	7	6	$1\frac{3}{16}$	3 3	$1\frac{3}{8}$	3 9
8	$2\frac{1}{8}$	$10\frac{1}{2}$	8	$1\frac{3}{16}$	4 6	$1\frac{3}{8}$	4 15
10	$2\frac{1}{4}$	$14\frac{1}{2}$	10	$1\frac{1}{4}$	6 5	$1\frac{3}{8}$	7 2
12	$2\frac{3}{8}$	$18\frac{1}{2}$	12	$1\frac{3}{8}$	7 8	$1\frac{3}{8}$	8 7
14	$2\frac{3}{8}$	$23\frac{1}{2}$	14	$1\frac{3}{8}$	8 2	$1\frac{5}{8}$	9 2
16	$2\frac{1}{2}$	$28\frac{1}{2}$	16	$1\frac{1}{2}$	11 0	$1\frac{5}{8}$	12 9
18	$2\frac{5}{8}$	$32\frac{1}{2}$	18	$1\frac{1}{2}$	12 4	$1\frac{5}{8}$	13 13
20	$2\frac{5}{8}$	$35\frac{1}{2}$	20	$1\frac{1}{2}$	14 12	$1\frac{5}{8}$	16 11
24	3	48	24	$1\frac{1}{2}$	19 9	$1\frac{5}{8}$	22 0

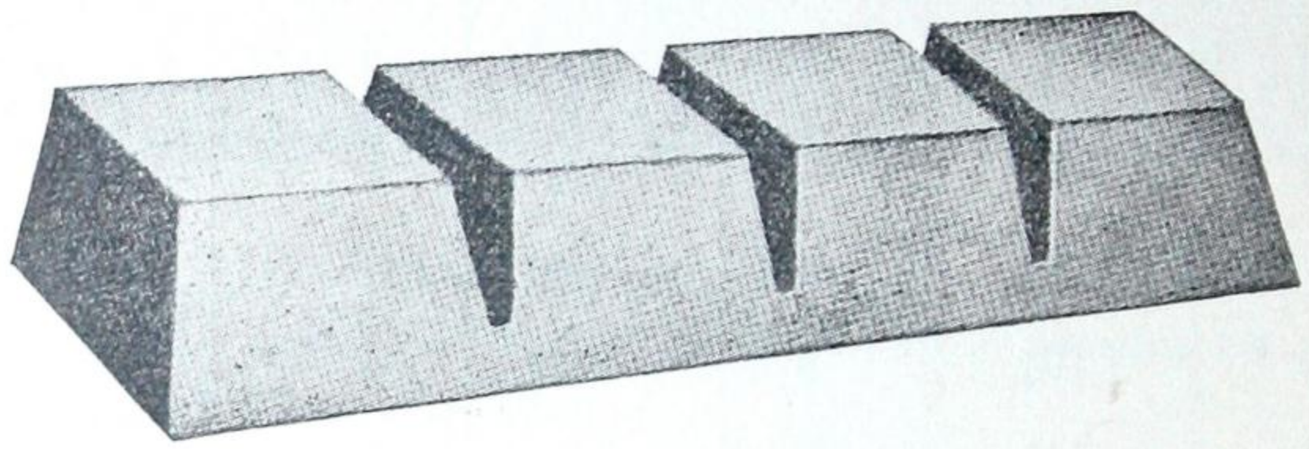
QUANTITIES OF CAST LEAD AND LEAD YARN REQUIRED FOR CAST IRON SOIL PIPE.

Sizes, Inches		2	3	4	5	6	8
Cast Lead..... Pounds per Joint...	Medium	$1\frac{1}{2}$	$2\frac{1}{8}$	$2\frac{3}{4}$	$3\frac{1}{2}$	4	....
	Ex. Hy.	$1\frac{1}{2}$	$2\frac{1}{4}$	3	$3\frac{3}{4}$	$4\frac{1}{2}$	6
Lead Yarn..... Pounds per Joint....	Medium	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	....
	Ex. Hy.	1	$1\frac{1}{3}$	$1\frac{2}{3}$	$1\frac{7}{8}$	$2\frac{1}{4}$	3

PIG LEAD.



CAULKING LEAD.

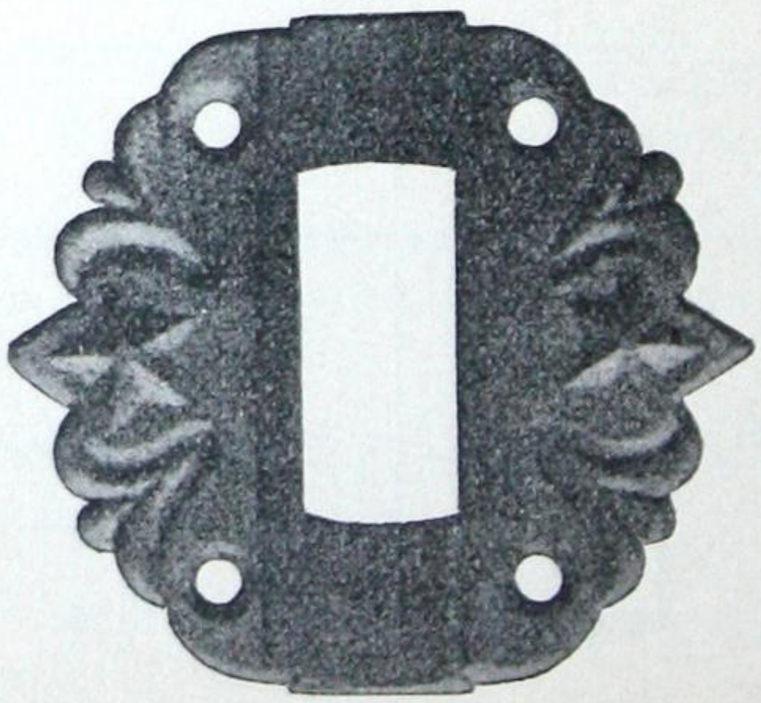


8 lbs. to bar, 2 lbs. to section.

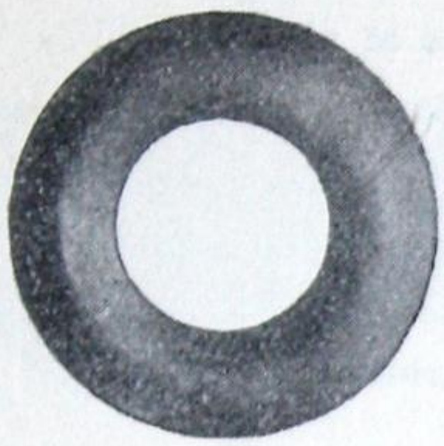
BAR LEAD.

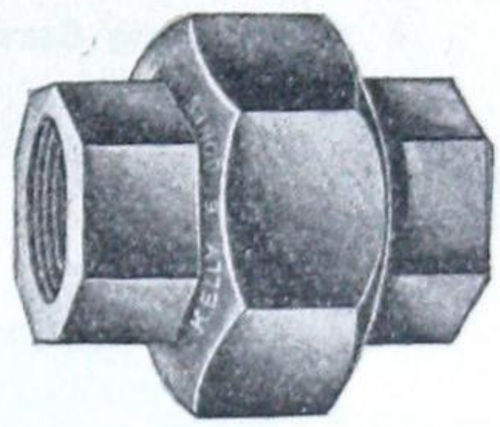


LEAD TACKS
DOUBLE
OR
SINGLE.



UNION LEAD GASKETS.





STOP THE LEAKS.

The Standard Union now in use can be re-washered and made as good as high priced ball faced Union by using The James Robertson Co., Limited, Metallic Gaskets. All sizes $\frac{1}{4}$ to 6 inches.

LEAD ROOFING WASHERS.



Average to lb.—350.

RIBBON LEAD.

Any thickness or weight per square foot made in strips $\frac{1}{4}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, 2, $2\frac{1}{2}$, 3, 4, 5, 6 inches wide, wound on small reels weighing from 100 to 200 pounds each.

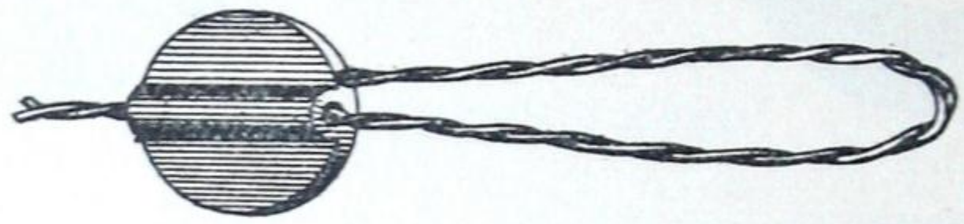
Our improved method of manufacture insures an absolutely smooth surface throughout the entire length.

LEAD WIRE.

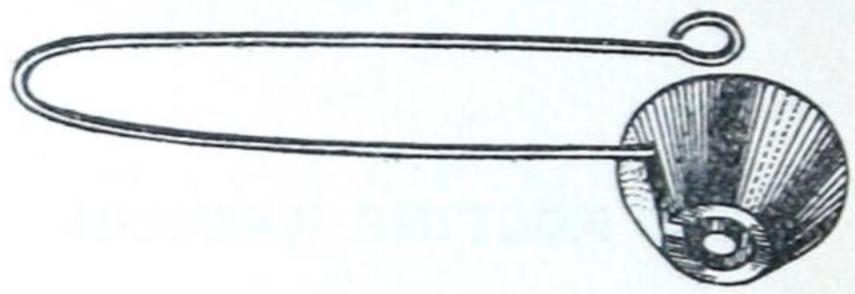
All sizes.

LEAD SEALS.

For Sealing Cars, Cans and Packages of all Kinds.



No. 3—With 6″, 8″ or 10″ wire.



No. 7—With 6″, 8″ or 10″ wire.

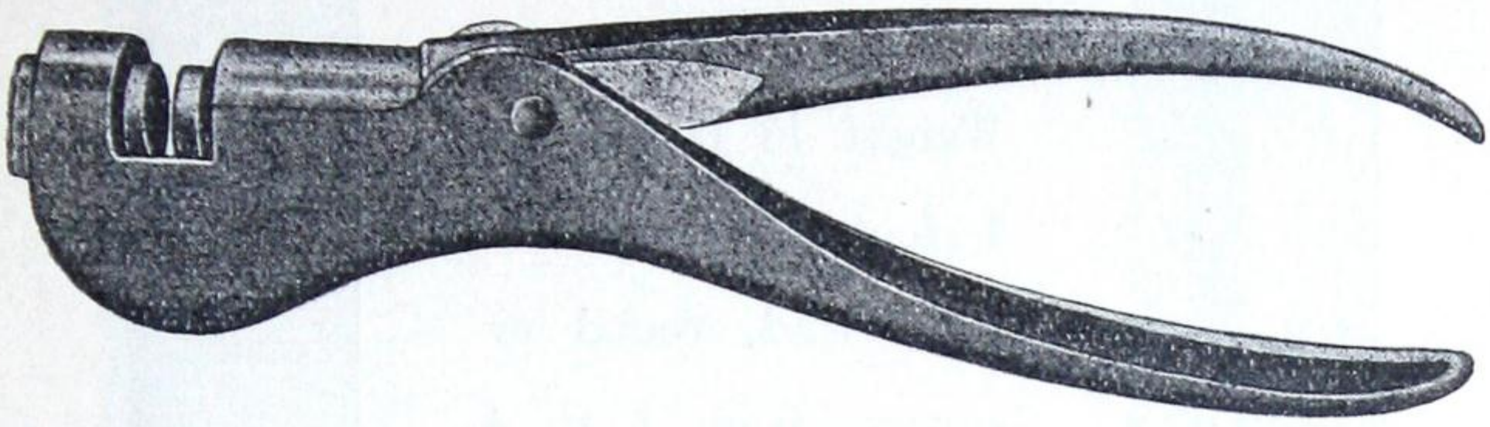


No. 10—With 6″, 8″ or 10″ wire.

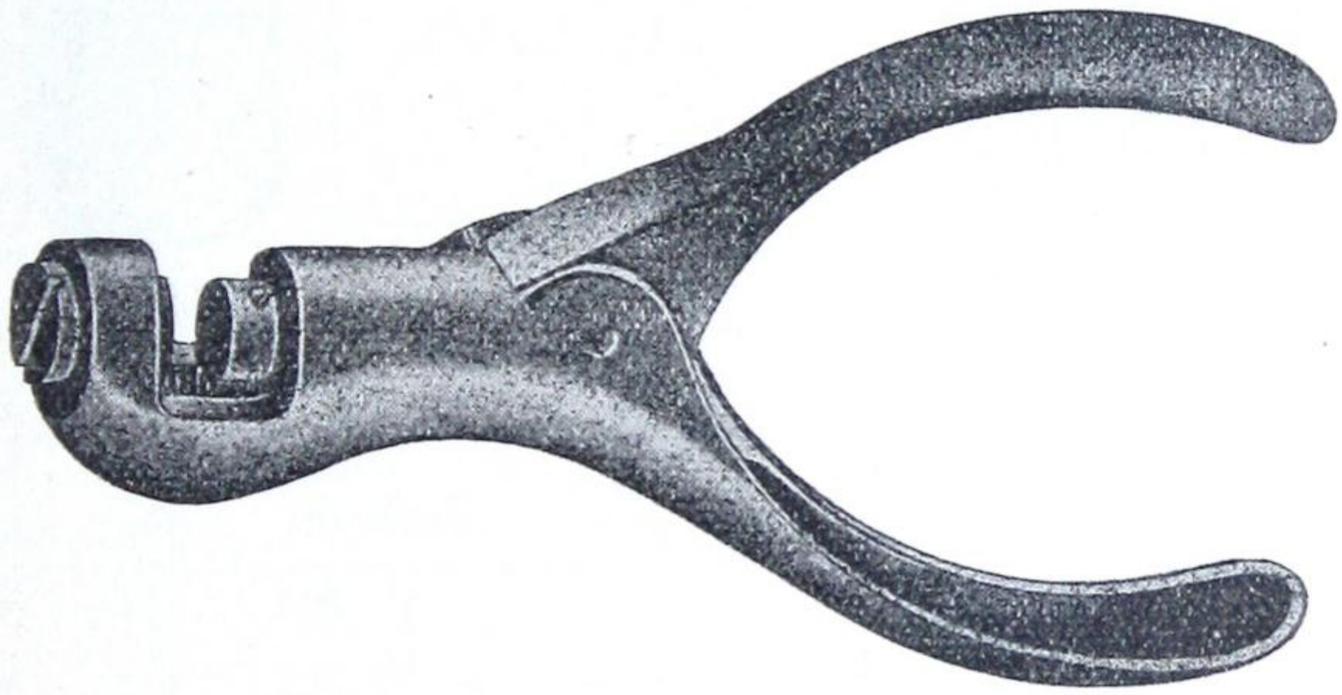
No. 18—Core for sealing packages tied with cord.

Any length of wire supplied to order.

LEAD SEAL PRESSES.



10 inches, Japanned.



6 inches, Nickel-Plated.

These Steel Presses are provided with adjustable dies 9-16 of an inch in diameter. These dies can be made smaller in diameter or countersunk to special order. The plunger works on the principle of the cam lever and a slight pressure on the handles will produce great punching power.

They are largely in use by express, railway, electrical and gas companies, cigar manufacturers, shippers of sealed merchandise and inspectors, in short, by all who have occasion to use lead seals. We have yet to find a user who has dispensed with it after having used it sufficiently to test its merit, durability and strength.

As there are only two moving parts, it is impossible for the tool to get out of order or break.

WINDOW WEIGHTS.



SQUARE

Weight in pounds of 1 foot in length of solid lead, round or square, from 1 to 4 inches inclusive.



ROUND

Inches	Lbs.	Inches	Lbs.
1	4.93	1	3.87
1 1/8	6.24	1 1/8	4.90
1 1/4	7.70	1 1/4	6.05
1 3/8	9.32	1 3/8	7.32
1 1/2	11.09	1 1/2	8.71
1 5/8	13.01	1 5/8	10.22
1 3/4	15.09	1 3/4	11.85
1 7/8	17.32	1 7/8	13.61
2	19.71	2	15.48
2 1/8	22.25	2 1/8	17.48
2 1/4	24.95	2 1/4	19.59
2 3/8	27.80	2 3/8	21.83
2 1/2	30.79	2 1/2	24.18
2 5/8	33.96	2 5/8	26.67
2 3/4	37.26	2 3/4	29.27
2 7/8	40.73	2 7/8	32.00
3	44.34	3	34.83
3 1/4	52.07	3 1/4	40.52
3 1/2	60.82	3 1/2	47.26
3 3/4	69.33	3 3/4	54.00
4	78.88	4	61.93

Made with the greatest care and accuracy, and cannot pull loose from the eye.

SHOT.

	Dia.	No. Drop Shot to oz.	No. Chilled Shot to oz.
●	.05	2326	2385
●	.06	1346	1380
●	Trap	1056	1130
●	.07	848	868
●	Trap	688	716
●	.08	568	585
●	Trap	472	495
●	.09	399	409
●	Trap	338	345
●	.10	291	299
●	.11	218	223
●	.12	168	172
●	.13	132	136
●	.14	106	109
●	.15	86	88
●	.16	71	73
●	.17	59	**
●	.18	50	**
●	.19	42	**
●	.20	36	**
●	.21	31	**
●	.22	27	**
●	.23	24	**

Dia.	Balls to lb.
.24	337
.25	295
.27	237
.30	173
.32	142
.34	118
.36	100
.38	85
.44	50

DUST SHOT

Size	Dia.	Shot to oz.
Dust	.04	4565

BATTERY ZINCS.

CROW FOOT.

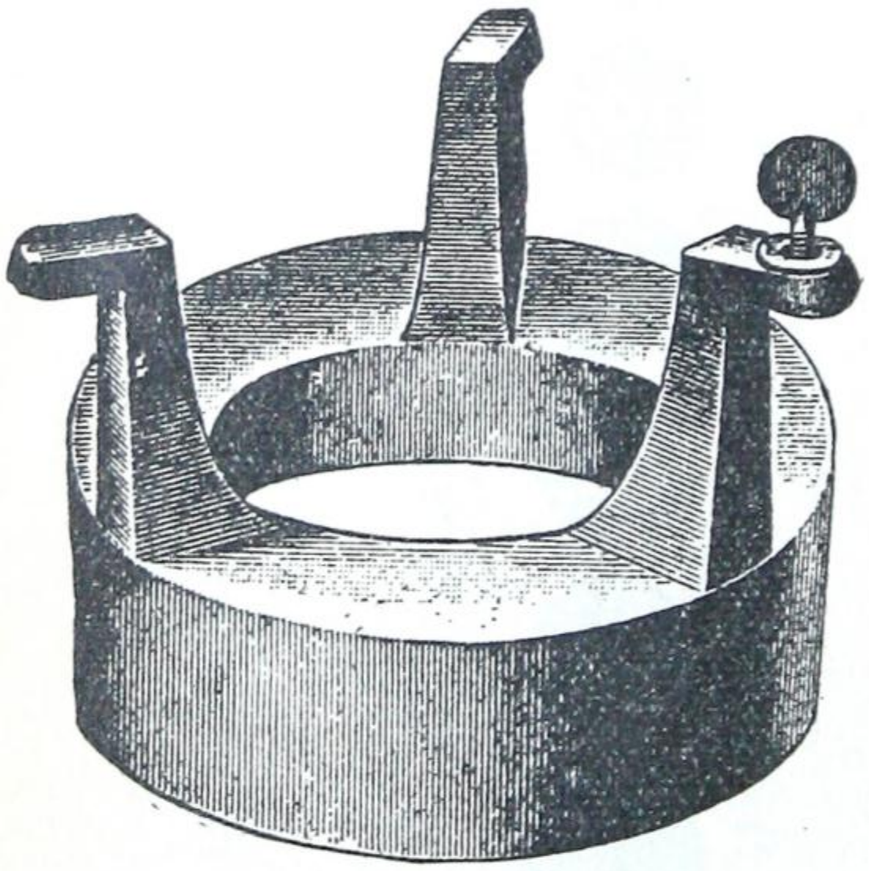


Weight, 3 lbs.



Weight, 3 lbs.

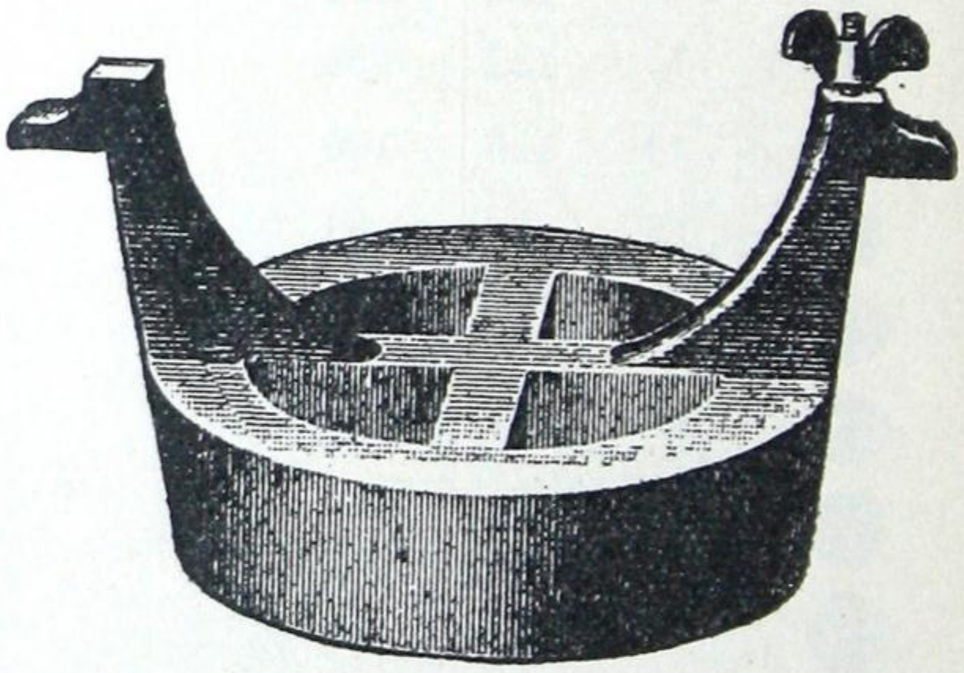
STANDARD FIRE ALARM.



With Thumb Screw.

Weight, 3 lbs.

TELEGRAPH.



With Thumb Screw.

Weight, 4½ lbs.

PENCILS.



⅜″ Round. 18 lbs. to 100.

SHEET TIN.


1 lb. per sq. ft. — 1/40 in.

1½ lbs. — 1/27 in.


2 lbs. — 1/20 in.


2½ lbs. — 1/16 in.


3 lbs. — 1/13 in.


3½ lbs. — 1/11 in.


4 lbs. — 1/10 in.


4½ lbs. — 1/9 in.


5 lbs. — 1/8 in.


10 lbs. — 1/4 in.


20 lbs. — ½ in.

PLATE 3504-D.

Any weight from 1 pound to 20 pounds per square foot.

Table showing corresponding gauges:

1/40 inch..... .025
No. 23, Stubs .025
No. 22, B. & S. .02534

1/27 inch..... .037
No. 20, Stubs .035
No. 19, B. & S. .0359

1/20 inch..... .050
No. 18, Stubs .049
No. 16, B. & S. .0508

1/16 inch..... .0625
No. 16, Stubs .065
No. 14, B. & S. .0641

1/13 inch..... .0769
No. 15, Stubs .072
No. 13, B. & S. .07196

1/11 inch..... .0909
No. 13, Stubs .095
No. 11, B. & S. .0907

1/10 inch..... .100
No. 12, Stubs .109
No. 10, B. & S. .1019

Special attention given to rolling dimension sheets.

Sheet tin for soda fountain linings a specialty.

In ordering, state requirements in full.

SOLDER.

The essentials of a good solder are that it shall have an affinity for the metals to be united, should melt at a considerably lower temperature, should be strong, tough and uniform in composition and not easily oxidized. All these you will find in our make of goods, as our years of experience have enabled us to produce a solder which for purity and uniformity is unexcelled.

Our **"King"** quality we recommend to users as a high-grade article, and claim a low melting point and absolute freedom from impurities.

Our **"Strictly"** is a mixture of fine quality. The Tin and Lead from which it is made being carefully refined.

Our **"Merchant"** and **"Commercial"** Bars are mixtures of Tin and Lead which we sell at a lower price than our finer grades, and are superior articles to many so-called Half-and-Half Solders.

Our **"Swastika"** Wiping Solder is the product of a long experience and knowledge in the wants of the plumber. Our success in producing a satisfactory article that the workman can depend on for success in wiping joints is proven by the general use from coast to coast of "Swastika."

Special Alloys and Shapes made to order, Cast and Cold Drawn by Hydraulic Pressure, insuring even gauge.

SOLDERS.





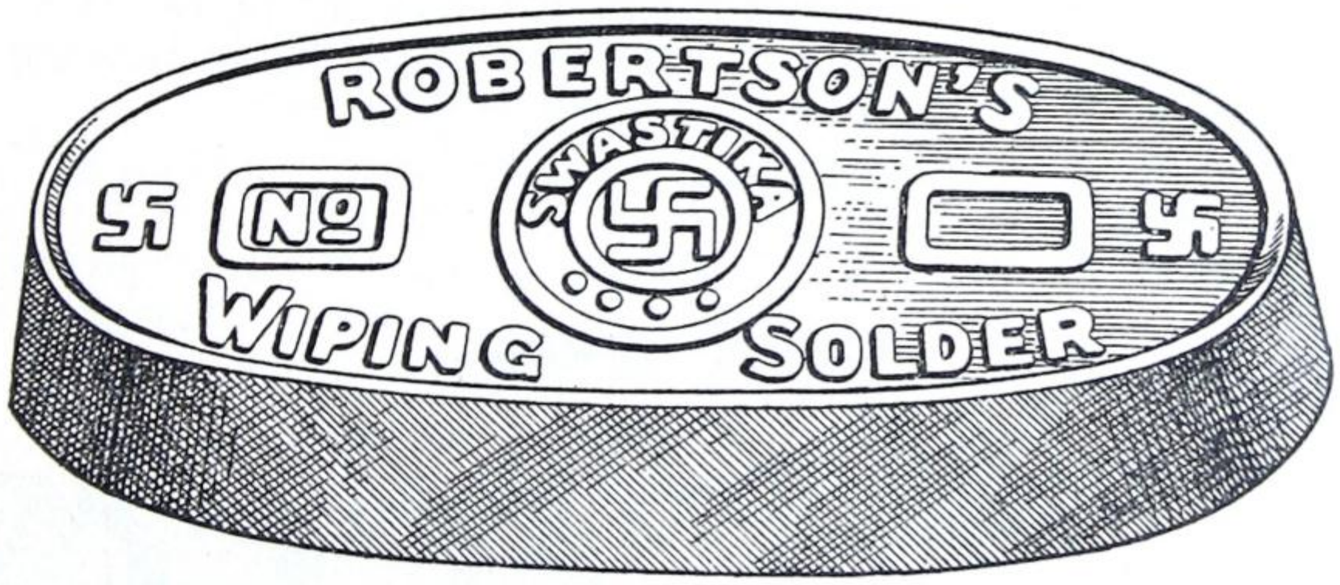




GLAZIERS', CANNERS' AND ELECTRICIANS' SOLDERS.

Other Shapes of Bars to order.

PLUMBERS' WIPING SOLDER.



WIRE SOLDER.

All Sizes and Shapes.



Angle.



Cable.



Oval.



Ribbon.

BABBITT METALS.

METHOD OF MANUFACTURING.

Our process for the production of Alloys particularly suitable for the manufacture of Anti-Friction or Bearing Metals and similar Compositions has been developed and perfected with the object of making metals specially adapted for a purpose in which minute quantities of injurious impurities often lead to disastrous results. The introduction to general use of Motors and Turbines and the extraordinary development of high-speed journals have rendered greater care than ever necessary in the selection of Metals and manufacture of Alloys, and the fact that the James Robertson Co., Limited, Metals are giving entire satisfaction in high-speed bearings of these engines is good evidence of the care exercised in refining our Metals. By the unique method employed, our first aim is to make metals free from all impurities and, secondly, to produce such metals in the most economical way. We claim the successful achievement of both these results by our combined chemical-metallurgical process. The Engineer who has hitherto made an alloy to his own specification by buying the separate metals from merchants and mixing them in his own foundry, is invited to compare his cost with the price at which the same alloy is obtainable direct from us—the difference, plus the saving of trouble and responsibility, will prove to him a great economy.

CAMEL.

Fusing Point, 440 deg. Fahrenheit.

Fluid at 626 deg. Fahrenheit.



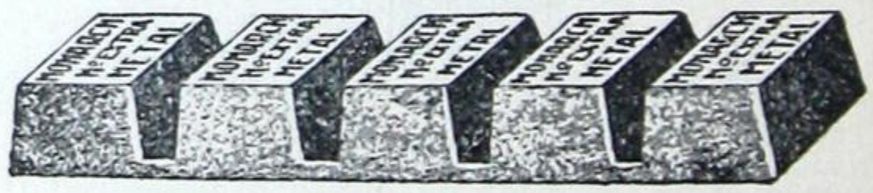
This Alloy is most highly recommended for Locomotive, Marine, Motor Bearings, and every type of bearings carrying heavy loads at a very high speed. It is the best metal for Motor Car Engines, and has proved a lasting success where all other Alloys have failed. It is a self-tinning metal and adheres perfectly to the bearing. Recessing is not necessary, and a thinner lining may be put in the bearing than possible with many other metals, and less metal is therefore required.

Price, 60c per lb.

MONARCH GENUINE.

Fusing Point, 390 deg. Fahrenheit.

Fluid at 576 deg. Fahrenheit.



It is a high-grade genuine Babbitt, tougher than the standard formula, peens perfectly, pours freely, and is ductile. It is particularly suited for shell bearings, loose pulleys, crushing rolls, or wherever mechanical conditions are such that the bearing metal is not securely seated on its backing or is subjected to pounding or unusual stress.

Price, 50c per lb.

BABBITT METALS.

SWASTIKA.

Melting Point, 500 deg. Fahrenheit.

Pressure Capacity, 3000 lbs. per square inch



Is used for Heavy Pressure and Medium Speed, or Heavy Pressure and High Speed, especially main bearings of marine engines, boxes of large steamship crankshafts, locomotive axle bearings, bearings of rolling mills, dynamos, large wood-working centrifugal and spinning machinery, emery wheels, etc.

Price, 25c per lb.

KING.

Melting Point, 457 deg. Fahrenheit.

Pressure Capacity, 2500 lbs. per square inch.



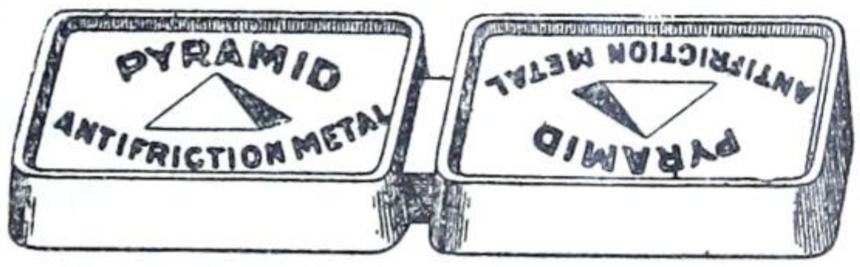
Is recommended for bearings of light machinery and shafting for steamship tunnel shafts of all sizes, for Cement, Asbestos, Clay and Brick Machinery; and also for bearings of light, high-speed Machinery, as wood-working-centrifugal, etc.

Price, 22c per lb.

PYRAMID.

Melting Point, 500 deg. Fahrenheit.

Pressure Capacity, 2000 lbs. per square inch.



This is the same formula as an extensively advertised metal, and is suitable for axle boxes of railway and tramcars; bearings of steam, gas and oil engines, medium crankshafts, rolling mills, flour and grist mills, grinding, pumping, etc., machinery, and all kinds of journals.

Price, 20c per lb.

THURBER.

Melting Point, 460 deg. Fahrenheit.

Pressure Capacity, 1200 lbs. per square inch.



It would be impracticable to attempt to specify the particular work for which Thurber is best suited, because it will bear the heaviest pressures that any Babbitt Metal will sustain, and will be found quite as good, and in some cases better than, higher priced metals that are offered in competition with our other metals.

Price, 15c per lb.

ROBERTSON'S WHITE BRASS.



This Celebrated Anti-Friction Alloy is noted for its wearing qualities. It is especially adapted for marine and stationary engines in which the bearings are required to withstand great pressure. It is used also in pumps, dynamos, paper and pulp machinery, rolling mills, stone crushers, water turbines, etc.

Price, 30c per lb.

ALUMINIZED WHITE BRASS.



This Alloy contains Aluminium which makes it very tough. It is suitable for small high-speed motor bearings, centrifugal crushers, cyclones, etc.

Price, 40c per lb.

Note.—To get the best results from the above Metals it is necessary to melt them in a crucible. Fine charcoal should be thrown over the surface of the melted metal to prevent oxidization. This charcoal should be quickly removed before pouring.

We also Manufacture and control the following Brands of Babbitt:—

MONARCH EXTRA.

Price, 60c per lb.

MONARCH CROWN.

Price, 40c per lb.

FLEUR DE LIS.

Price, 20c per lb.

PHILADELPHIA.

CANADIAN.

STERLING No. 1.
" No. 3.

STERLING No. 2.
" No. 4.

PRICES ON APPLICATION.

THE "STANDARD"

LINOTYPE, MONOLINE AND MONOTYPE METALS

are made by us. We are the largest makers of the above Metals in Canada. Users of these machines will avoid the inconvenience caused by inferior compositions choking the Mouthpiece, by ordering the James Robertson Co. Standard Metal.

WE ALSO MAKE

STEREOTYPE, ELECTROTYPE, AUTOPLATE AND COMBINATION METALS.

PROPERTIES OF LEAD.

Lead is a bluish gray metal.

Does not crystallize readily. When refined lead is poured at the correct temperature into a warm mould and allowed to cool, fern-like crystalline aggregates appear at the surface.

Specific gravity 11.37 (Reichs) for pure lead at 0°C (water at 4°C being unity). Roberts-Austen gives as specific gravity of solid lead 11.40; of liquid lead 10.65 and 10.67. The specific gravity will vary slightly according as it is cooled quickly or slowly, hammered or rolled.

Commercial lead has a lower specific gravity than 11.37 on account of the impurities contained in it.

Lead is very soft, especially when allowed to cool and solidify slowly.

Lead is very malleable and ductile.

Fracture of lead is hackly when broken cold, columnar when hot.

In the form of filings it becomes a solid mass if subjected to a pressure of 13 tons to the square inch and liquifies at $2\frac{1}{2}$ times this pressure. (Roberts-Austen.)

Oxidation occurs slowly in dry air, the oxide forming a protecting coating over the surface.

Lead undergoes no change in perfectly dry air, nor in water that is free from air.

Pure soft water attacks lead slowly. Hard water has little action on lead.

If melted in contact with air it oxidizes and becomes covered with an iridescent pellicle said to be the suboxide Pb_2O, this gradually changes to the oxide PbO, and if the heating to from 300° to 450°C be prolonged sufficiently the red oxide Pb_3O_4 is obtained.

The other two oxides which lead forms are the sesquioxide Pb_2O_4 and the peroxide PbO_2.

Lead melts at about 625°F (330°C) and softens and becomes pasty at about 671°F. (Kent.)

Lead absorbs in fusing 5.4 metric thermal units per kilogramme.

Lead is gradually attacked by water containing carbonic acid or salts of nitric acid; the solution is poisonous.

Lead boils at between 1450° and 1600°C.

Lead cannot be distilled.

Lead emits a vapor at a bright red heat of almost $\frac{1}{1000}$ of its weight per hour. Latent heat of lead is 5.369.

Atomic weight 206.9.

Expansion at ordinary temperatures.

Coefficient for 1°F., 0.00001571.

Total between 32° and 212°F. Coeff. = 0.002828.

Coefficient of cubical expansion for 1°C; 0.000089.

Linear coefficient about $\frac{1}{8}$ of the cubical.

Heat conducting power of lead is about 85. (Weidemann & Franz.)

Specific heat between 10° and 100°C is 0.0314, with silver as 100, the conductivity for heat at 12°C is 8.5 and for electricity 10.7.

Breaking strength in tons per square inch (cast) lead .81, sheet lead .86, lead pipe, 1.00.

Average ultimate tensile strength for cast lead, 1700 to 2400 lbs. per square inch; for lead wire, 1200 to 1600; for lead pipe, 1600 to 1700.

Average crushing load per square inch (cast) 7350 pounds.

Shrinkage of castings in 1 foot $\frac{5}{16}$ inch.

Tensile resistance, 2240 pounds.

Safe working tension, 370.

Lead is almost devoid of elasticity.

Sheet lead has a tenacity or resistance to tearing by direct pull of 3300 pounds per square inch.

EFFECTS OF ACIDS ON LEAD.

Sulphuric Acid.—The purer the lead the less will it be attacked by pure or Nitrous Sulphuric Acid up to 200°C., the highest temperature employed under normal conditions in concentrating pans, above 200°C., the action becomes stronger and at 260°C the lead is dissolved. Concentrated Nitrous Sulphuric Acid acts at all temperatures more powerfully than pure Sulphuric Acid, and the effect is greater in the presence of air. Dilute Nitrous Sulphuric Acid of a specific gravity of 1.72—1.76 is not as powerful as the pure acid, although if the dilution be continued beyond this point the power increases again instead of diminishing. Boiling Sulphuric Acid of sp. gr. 1.84 acts severely on lead and fuming acid still more so.

Jounge found that a rough surface was more readily corroded by Nitrous Sulphuric Acid than a smooth surface; and the greater the content of Nitrogen oxides in the acid the more the lead is attacked.

Organic Acids.—Acetic, Tartaric and Citric Acids attack lead in contact with air.

Nitric Acid dissolves lead, forming Nitrate of Lead. This acid acts very energetically when dilute, but more slowly when concentrated owing to the Nitrate of Lead being insoluble in strong Nitric Acid.

Hydrochloric Acid has practically no action on lead. Boiling concentrated Hydrochloric and Sulphuric Acids of 66°B dissolve it slowly.

Aqua Regia converts lead into a chloride.

Arsenic or Arsenious Acid unites with lead, yielding Arsenite or Arsenide of Lead.

Peat Acids in water slowly attack lead.

Chlorate of Potash dried upon lead covered tables will be found to contain traces of lead.

Gases of a properly worked Sulphuric Acid plant have a very mild action upon the sheet lead of which the chambers are built, and when any severe action takes place some abnormal condition is sure to have been the cause.

Chlorine does not attack lead to any serious extent; but when Chlorine is accompanied by traces of Hydrochloric Gas the damage is often extensive.

Lime Wash upon lead after having dried helps Chlorine to form the purple Oxide of Lead. This shortens the life of the lead, and should not be used on the outside of bleaching powder chambers.

ALLOYS OF ANTIMONY AND LEAD—(Brant).

Antimony and lead combine in all proportions. Zinc combines with Antimony, but lead separates when added to the alloy.

.005 per cent. Antimony does not harden lead; .25 per cent. makes lead hard, but still remains malleable. Lead-Antimony alloys with 23.5 per cent. Antimony are about four times as hard as pure lead.

By further increase in content of Antimony the hardness may be increased to even 12 times pure lead. The latter has great brittleness and is never used.

Expansion takes place throughout in alloying Lead and Antimony, and the specific gravity decreases with the content of Antimony.

LENGTH OF WIPE JOINTS FOR LEAD PIPE.

Diameter Pipe, inches	Length Joint inches	Diameter Pipe, inches	Length Joint inches	Diameter Pipe, inches	Length Joint inches
½	2⅛	1¼ water	3	2 waste	2¼
⅝	2¼	1¼ waste	2	2½ waste	2½
¾	2½	1½ water	3¼	3 waste	2½
1	2¾	1½ waste	2¼	4 waste	3

SOLDER REQUIRED FOR ROUND WIPED JOINTS.

½	inch pipe,	A	9½	ozs.
⅝	" "	A	9	"
⅜	" "	A	4¼	"
1	" "	A	10	"
2	" "	A	17½	"

SOLDERS REQUIRED FOR ROUND JOINTS ON WATER PIPE.

1¼	inch,	D	9¾	ozs.
1½	"	D	10¼	"
2	"	D	15	"

BRANCH PIPE.

1¼	inch pipe	9	ozs.
1½	" "	9½	"
2	" "	10¼	"

SOLDER REQUIRED FOR JOINTS.

½	inch pipe takes	¾	pounds.	
¾	" " "	1	"	
1	" " "	1¼	"	
1¼	" " "	1½	"	
1½	" " "	1¾	"	
1¾	" " "	2	"	
2	" " "	2¼	"	

SHAVING FOR LEAD JOINTS

Diameter	Shaving.
½ inch	2½ in. long.
¾ "	2¾ " "
1 "	3 " "
1¼ "	3¼ " "
1½ "	3½ " "
2 "	4 " "
3 "	3½ in.—4 " "
4 "	3½ in.—4 " "
5 "	and all sizes over 4 " "

FUSING POINTS OF SOLDER.

Percentage Tin	Percentage Lead	Fusing Point
83.3	16.7	401° F.
69.5	30.5	368.6° F.
63.0	37.0	357.8° F.
53.2	46.8	368.6° F.
50.0	50.0	395.6° F.
45.6	54.4	410° F.
36.2	63.8	455° F.
27.2	72.8	474.8° F.
22.1	77.9	518° F.
15.9	84.1	541° F.
12.4	87.6	557° F.

Solder fuses at a lower temperature than either component.

WEIGHT OF LEAD REQUIRED FOR JOINTS OF CAST IRON SOCKET PIPES.

Diam. of Pipe, inches	Weight Lead, pounds	Diam. of Pipe, inches	Weight Lead, pounds
2	2	10	12
2½	2½	11	13½
3	3	12	15
4	3¾	14	18
5	6	15	22
6	7	16	24
7	8	18	25
8	9	20	27
9	10½	24	38

SPACING OF LEAD PIPE TACKS.

Size of Pipe, in.	Vertical Pipe, in.		Horizontal Pipe, in.	
	Hot	Cold	Hot	Cold
⅜	18	24	12	16
½	19	25	14	17
⅝	20	26	15	18
¾	21	27	16	19
1	22	28	17	20
1¼	23	29	18	21
1½	24	30	18	22

Tacks are spaced closer on hot than on cold pipes, as lead is much more liable to sag when heated.

LEAD MEMORANDUM.

Joints in lead pipe require a pound of solder for every inch in diameter.

For flashings use 4 lb. sheet lead.

For hips and ridges use 6 lb. sheet lead.

For roofs and gutters use 7 lb. sheet lead.

Cubic foot of lead weighs 711 lbs.

Cubic inch of lead weighs $6\frac{7}{16}$ ounces.

Sheet lead. Pounds per square foot x .016 = thickness in decimals of an inch.

All lead traps and bends should be of the same thickness and weight as their corresponding pipe branches.

Lead rolled 1 inch thick by 1 foot square weighs an average of 60 lbs.

Stowage capacity required per ton of lead, 4 cubic feet.

FUSING POINT AND CHARACTER OF METALS.

Metals	Melts °F.	Specific Gravity	Color.	Character.	Elec. Cond Silver 100	Value per oz.	Lbs. Weight per cub. in.
Aluminum....	1157	2.56	Blue white...	Malleable....	63.00	$ 0.03	.0924
Antimony....	842	6.71	Blue white...	Brittle.....	3.59	.01	.2424
Arsenic.....	Vaporizes	5.67	Steel gray...	Brittle.....	4.90	.05	.2048
Barium.....	2192	3.75	Pale yellow..	Malleable....	30.61	32.00	.1355
Bismuth.....	485	9.80	Gray white...	Brittle.....	1.40	.10	.3540
Boron.....	4500	2.68	Olive green..	Hard.....	.....	16.73	.0967
Cadmium....	576	8.60	Tin white....	Malleable....	24.38	.12	.3107
Caesium.....	78.8	1.88	Tin white,...	Soft.....	20.00	30.00	.0679
Calcium.....	1472	1.57	Yellow.....	Malleable....	21.77	.50	.0567
Cerium.....	1246	6.68	White.....	Malleable....	15.75	40.00	.2413
Chromium....	4000	6.80	Gray white..	Brittle.....	16.00	.05	.2457
Cobalt.....	2932	8.50	Pink white...	Malleable....	16.93	.10	.3071
Copper.....	1929	8.82	Pink red.....	Malleable....	97.61	.01	.3186
Didymium....	1346	6.54	Gray.....	Malleable....	4.32	72.00	.2363
Erbium.....	1223	4.97	Dark gray....	Malleable....	31.50	62.00	.1794
Gallium.....	86.1	5.90	Silver white..	Malleable....	34.51	200.00	.2130
Germanium...	1678	5.47	Gray white..	Brittle.....	15.07	95 00	.1975
Glucinum....	1798	1.70	Silver white..	Malleable....	31.13	80.00	.0748
Gold.....	1913	19.32	Yellow.....	Malleable....	76.61	20.00	.6979
Indium.....	349	7.42	White.....	Malleable....	26.98	72.00	.2681
Iridium.....	3217	22.42	White.....	Malleable....	13.52	10.00	.8099
Iron, pure....	2912	7.02	White.....	Malleable....	14.57	$\frac{1}{32}$	.2840
Lanthanum...	1318	6.20	White.....	Malleable....	47.07	80.00	.2240
Lead.....	618	11.37	Blue white...	Soft.....	8.42	$\frac{1}{4}$	.4108
Lithium.....	356	0.59	White.....	Malleable....	18.68	64.00	.0213
Magnesium...	1200	1.74	Blue white...	Malleable....	39.44	.18	.0629
Manganese...	3452	8.00	Gray white..	Brittle.....	15.75	.07	.2890
Mercury.....	—39	13.59	Blue white...	Fluid.....	1.75	.03	.4909
Molybdenum.	4000	8.80	Silver white..	Brittle.....	17.60	.08	.3107
Nickel.....	2912	8.80	Yellow white.	Malleable....	12.89	.03	.3179
Niobium.....	3978	6.27	Steel gray...	Malleable....	5.13	109.72	.2265
Osmium.....	4532	22.48	White blue...	Malleable....	13.98	23.53	.8121
Palladium.....	2732	11.50	White.....	Malleable....	12.00	8.00	.4100
Platinum.....	3227	21.50	White.....	Malleable....	14.43	25.00	.7767
Potassium....	144	0.87	Blue white...	Soft.....	19.62	.20	.0314
Rhodium.....	3632	12.10	White.....	Brittle.....	12.61	40.00	.4371
Rubidium....	101	1.52	White.....	Soft.....	20.46	88.00	.0549
Ruthemium...	3272	12.26	White.....	Brittle.....	13.22	55.00	.4429
Silver.....	1733	10.53	White.....	Malleable....	1.00	.65	.3805
Silicium.....	3118	2.33	Gray black..	Brittle.....	.04	2.02	.0841
Sodium.....	194	0.97	Blue white...	Soft.....	31.98	.20	.0350
Strontium....	1472	2.58	Pale yellow..	Malleable....	6.60	40.00	.0918
Steel.....	2532	7.85	White.....	Malleable....	12.00	$\frac{1}{2}$	.2837
Tantalum....	4300	10.80	Steel gray....	Malleable....	54.63	101.21	.3902
Tellurium....	977	6.25	White.....	Brittle.....	.0007	5.00	.2250
Thallium.....	550	11.85	White.....	Soft.....	9.13	40.00	.4281
Thorium.....	1100	11.10	White.....	Brittle.....	8.60	160.00	.4000
Tin.....	446	7.29	Silver white..	Malleable....	14.39	.02	.2634
Titanium.....	4400	5.30	Iron gray....	Malleable....	13.73	50.00	.1915
Tungsten.....	4000	17.60	White.....	Brittle.....	14.00	.04	.6900
Uranium.....	1650	18.70	Steel white...	Malleable....	16.47	75.00	.6755
Vanadium....	4278	5.50	Silver white..	Malleable....	4.95	80.00	.1987
Yttrium.....	1250	.....	Yellow white	Brittle.....	30.11	94.41	.2047
Zinc.....	779	7.15	Blue white...	Malleable....	29.57	$\frac{1}{4}$	.2479
Zirconium....	3000	4.15	Gray white..	Brittle.....	.05	40.00	.1499

GALVANIZED SHEET IRON

QUEEN'S 

HEAD

This Brand is Famous for its Working Quality, Finish, Flatness and Evenness of Weights.

WEIGHT PER SHEET IN POUNDS.

Length	6 Feet					8 Feet					10 Feet		
Width, Inches	18	20	24	30	36	18	20	24	30	36	24	30	36
Gauges 14	....	....	40¼	50¼	60¼	....	....	53½	67	80½	....	....	....
16	....	....	31½	39¼	47	....	....	42	52¼	63	....	....	....
18	....	....	23¼	29¼	35	....	....	31¼	39	47	....	....	....
20	....	....	19¼	24	29	....	....	25¾	32	38½	....	....	....
22	....	....	15½	19½	23½	....	....	21	26	31¼	....	....	....
24	....	....	12¾	16	19	....	....	17	21¼	25½	21¼	26½	32
26	6¾	7	9	11½	13¾	9¼	10	12¼	15¼	18¼	15¼	19	23
28	6⅛	6½	8	10	12¼	7¾	9	11	13½	16¼	13½	17	20½

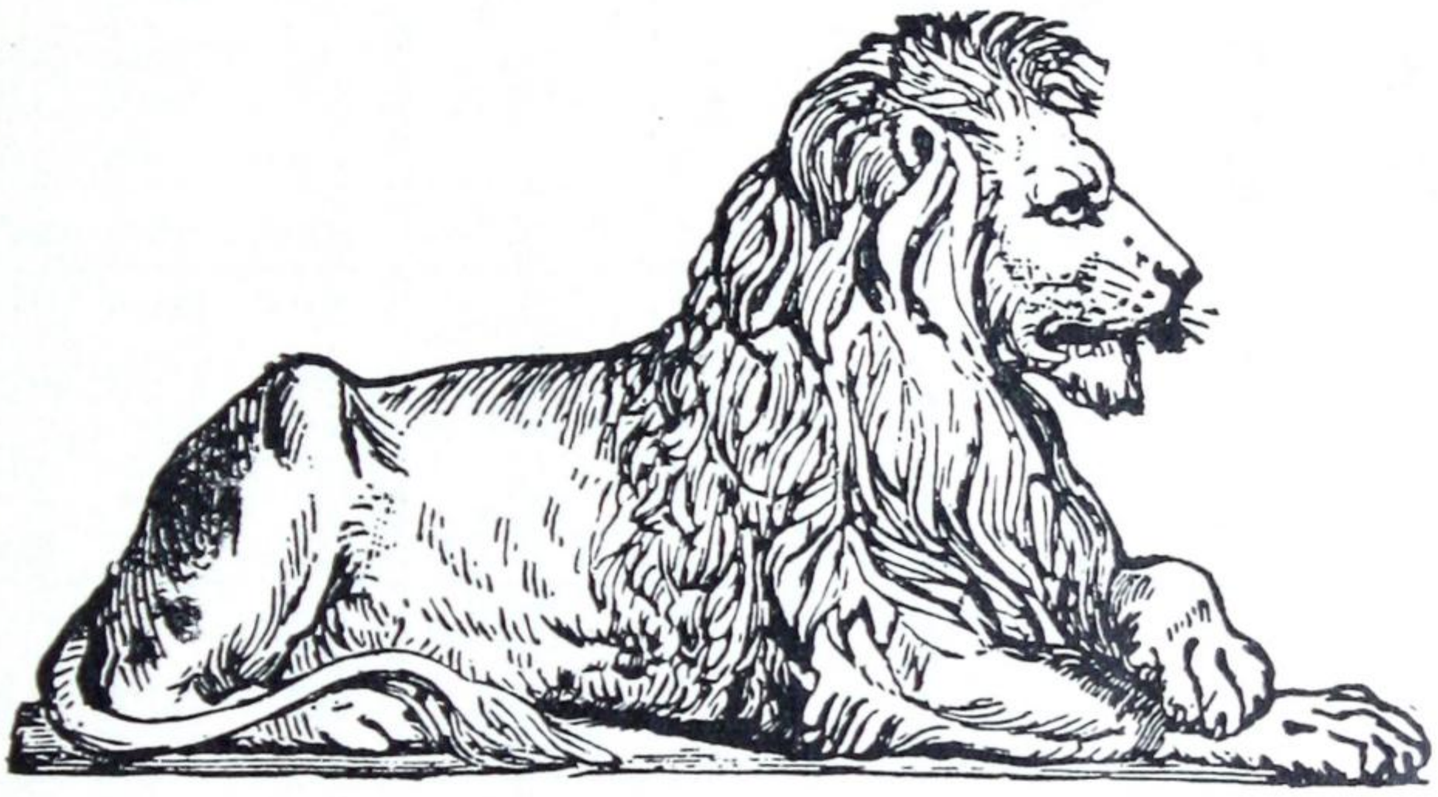
AVERAGE NUMBER OF SHEETS PER CASE OF 10 CWT.

Length	6 Feet					8 Feet					10 Feet		
Width, Inches	18	20	24	30	36	18	20	24	30	36	24	30	36
Gauges 14	....	....	28	22	19	....	....	21	17	14	....	....	....
16	....	....	36	29	24	....	....	27	22	18	....	....	....
18	....	....	48	38	32	....	....	36	29	24	....	....	....
20	....	....	58	46	39	....	....	44	35	29	....	....	....
22	....	....	72	57	48	....	....	54	43	36	....	....	....
24	....	....	88	70	59	....	....	66	53	44	53	42	35
26	162	147	122	98	81	122	110	92	73	61	73	59	49
28	180	165	138	110	90	138	123	103	82	69	83	66	55

GALVANIZED IRON SHEETS

STRATHCONA LION

STRATHCONA



PATENT FLATTENED

UNSURPASSED FOR ITS WORKING QUALITY, FINISH AND FLATNESS. WE CONSIDER THIS THE BEST GALVANIZED SHEET SOLD IN THE CANADIAN MARKET.

PACKED IN FELT LINED CASES OF 10 CWT.

WEIGHTS SAME AS QUEEN'S HEAD, SEE TABLE ON PAGE OPPOSITE

GALVANIZED IRON SHEETS

B. B. B.



BEST BEST BEST

A SIMILAR QUALITY OF OUR "STRATHCONA LION"

IN BUNDLES

American Gauges and Weights

WEIGHT OF SHEETS AND BUNDLES AND NUMBER OF SHEETS IN BUNDLES

Gauges	14			16			18			20			22			24			26			28			10¾ oz.		
Size, Inches	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets	Weight of Sheet	Weight of Bundle	Number of Sheets
24 x 72	39.37	157	4	31.87	159	5	25.87	155	6	19.87	159	8	16.87	152	9	13.87	153	11	10.87	152	14	9.00	150	16	8.00	152	19
30 x 72	49.22	148	3	39,84	159	4	32.34	162	5	24.84	149	6	21.09	148	7	17.34	156	9	13.59	149	11	11.72	152	13	10.00	150	15
36 x 72	59.06	177	3	47.81	143	3	38.81	155	4	29.81	149	5	25.31	152	6	20.81	146	7	16.31	147	9	14.06	155	11	12.09	157	13
24 x 96	52.6	157	3	42.5	170	4	34.5	138	4	26.5	159	6	22.5	157	7	18.5	148	8	14.5	145	10	12.5	150	12	10.75	161	15
30 x 96	65.62	131	2	53.12	159	3	43.12	129	3	33.12	166	5	28.12	141	5	23.12	162	7	18.12	145	8	15.62	156	10	13.43	148	11
36 x 96	78.75	157	2	63.75	127	2	51.75	155	3	39.75	159	4	33.75	169	5	27.75	166	6	21.75	152	7	18.75	150	8	16.12	161	10
48 x 96	104.96	210	2	84.80	169	2	68.80	137	2	52.80	158	3	44.80	179	4	36.80	158	4	.....	.....	....	.....	....	....	.....	....	....
24 x 120	65.62	131	2	53.12	159	3	43.12	129	3	33.12	166	5	28.12	141	5	23.12	162	7	18.12	145	8	15.62	156	10	13.43	148	11
30 x 120	82.03	164	2	66.41	133	2	53.91	162	3	41.41	166	4	35.16	141	4	28.91	145	5	22.66	159	7	19.53	156	8	16.79	151	9
36 x 120	98.44	197	2	79.69	159	2	64.69	129	2	49.69	149	3	42.19	169	4	34.69	173	5	27.19	163	6	23.44	164	7	20.15	161	8

Note.—No. 28 American Gauge is sold for No. 26 English, and 10¾ oz. is sold for No. 28 English.

GALVANIZED IRON SHEETS

"SAMSON"

IN BUNDLES

One of the most popular irons on the market. Used when a high quality such as "Strathcona" or "BBB" is not required.

WEIGHT PER SHEET AND AVERAGE NUMBER OF SHEETS PER BUNDLE.

Bundles average about 150 pounds.

Gauges	14		16		18		20		22		24		26		28	
Size, Inches	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets	Weight of Sheet	Number of Sheets
24 x 72	40¼	4	31½	5	23¼	6	19¼	8	15½	9	12¾	12	9	17	8	19
30 x 72	50¼	3	39¼	4	29¼	5	24	6	19½	8	16	10	11½	14	10	16
36 x 72	60¼	3	47	3	35	4	29	5	23½	6	19	8	13¾	12	12¼	13
24 x 96	53½	3	42	4	31¼	5	25¾	6	21	7	17	9	12¼	13	11	14
30 x 96	67	2	52¼	4	39	4	32	5	26	6	21¼	7	15¼	10	13½	12
36 x 96	80½	2	63	3	47	3	38½	4	31¼	5	25½	6	18¼	8	16¼	9
24 x 120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21¼	7	15¼	10	13½	12
30 x 120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26½	6	19	9	17	9
36 x 120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32	5	23	7	20½	8

CORRUGATED GALVANIZED SHEETS.

APPROXIMATE WEIGHT OF SHEETS.

Gauges	18	20	22	24	26	28
Length, Inches.						
72 x 30	29¼	24	19½	16	11½	10
72 x 36	35	29	23½	19	13¾	12¼
96 x 30	39	32	26	21¼	15¼	13½
96 x 36	47	38½	31¼	25½	18¼	16¼
120 x 30	..	..	..	26½	19	17
120 x 36	..	..	..	32	23	20½

2½" STANDARD CORRUGATION.

30" Sheets after corrugating measure ..... 27½"
36" " " " " ..... 33½"

AVERAGE WEIGHT PER SQUARE. CORRUGATED SHEETS.

28 Ge.	26 Ge.	24 Ge.	22 Ge.	20 Ge.	18 Ge.
75	86	120	154	185	228 Pounds.

NUMBER OF SQUARE FEET PER SHEET.

72 x 27½	72 x 33½	96 x 27½	96 x 33½	120 x 27½	120 x 33½
13¾	16¾	18⅓	22⅓	22 9/10	27 9/10

When figuring allow at least 10% for lapping.
While the above weights are not guaranteed, they can always be depended upon.

Corrugated Ridge Cap, 6, 12, 18 and 24 inch Apron.

BLACK SHEETS

AVERAGE WEIGHT PER SHEET AND SQUARE FOOT AND NUMBER OF SHEETS PER BUNDLE.

Gauge.....	¼"		3/16"		10		12		14		16		18		20		22		24		26		28	
Pounds per Square Foot	10.00		7.5		5.00		4.00		3.14		2.50		1.98		1.568		1.25		1.00		.784		.625	
Size, Inches.	Weight per Sheet		Weight per Sheet		Weight per Sheet		Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets
24 x 72	120		90		60		48	2	37½	4	30	4	24	6	18¾	7	15	8	12	10	9⅓	13	7½	14
30 x 72	150		112		75		60	2	47	3	37	4	30	4	23½	6	19	7	15	7	11½	10	9⅓	12
36 x 72	180		135		90		72	2	56½	2	45	3	36	4	28	5	22½	5	18	7	14	8	11	10
30 x 84	175		130		87½		70	2	55	2	43¾	3	35¾	3	27½	4	21¾	4	17½	6	13½	7	10¾	8
36 x 84	210		157		105		84	2	67	2	52½	3	41½	3	33	4	26¼	4	21	6	16½	7	13¼	8
24 x 96	160		120		80		64	2	50	2	40	3	32	3	25	4	20	4	16	6	12½	9	10	12
30 x 96	200		150		100		80	2	63	2	50	2	40	3	31	4	25	5	20	6	15½	8	12½	9
36 x 96	240		180		120		96	....	74½	....	60	2	48	3	37½	4	30	5	24	6	18¾	6	15	7
48 x 96	320		242		160		128	....	100	....	80	...	63	3	50	....	40	....	32	....	25	....	20	....
24 x 120	200		150		100		80	....	63	....	50	....	40	....	31	....	25	....	20	....	15½	....	12½	....
30 x 120	250		188		125		100	....	78½	....	62½	....	50	....	39	....	31	....	25	....	19½	....	15½	....
36 x 120	300		225		150		120	....	94	....	75	....	60	....	47	....	38	....	30	....	23½	....	19	....
48 x 120	400		300		210		180	....	126	....	100	....	79	....	63	....	50	....	40	....	31	....	25	....

Corrugated Black Sheets, All Sizes and Gauges.

BLACK STEEL SHEETS

"SOUTHERN CROSS"

Dead Flat, Cold Rolled and Close Annealed

Is a High Grade Steel Free from Scales; a favorite with the Range Maker and others desiring a First Class Working Sheet.

TABLE OF GAUGES AND WEIGHT PER SQUARE FOOT.

GAUGES	Equivalent Thickness in Decimal of an Inch	Approximate Thickness in Fraction of an Inch	Weight per Square Foot in Pounds
10	.1250	1/8	5.10
12	.0991	3/32	4.04
14	.0785	5/64	3.20
16	.0625	1/16	2.55
17	.0556	9/160	2.27
18	.0495	1/20	2.02
20	.0392	1/25	1.60
22	.0312	1/32	1.275
24	.0247	1/40	1.01
26	.0196	1/50	.800
28	.0156	1/64	.637

We carry a large stock of all sizes and gauges.

BLACK STEEL SHEETS

"BBB"

DEAD FLAT, COLD ROLLED AND
CLOSE ANNEALED

SAME QUALITY AND WEIGHTS
AS "SOUTHERN CROSS"

"GLOBE"

A GOOD QUALITY STEEL SUITABLE FOR ANY
WORK WHERE A HIGH QUALITY AS
"BBB" IS NOT NECESSARY

WEIGHTS AND GAUGES SAME AS "BBB" AND "SOUTHERN CROSS"

Steel Sheets

WHITE POLISHED

FOR NICKEL PLATING

HARD AND SOFT IN WIDTHS 1 TO 12 INCHES

Rustless Steel Sheets

THESE SHEETS ARE MADE FROM A SOFT STEEL, COATED WITH ZINC BY A PATENT PROCESS. THE ZINC IS ABSORBED BY THE STEEL, AND DOES NOT ONLY FORM A COATING AS IN GALVANIZED SHEETS, THEREFORE THE COATING DOES NOT CRACK AND SCALE OFF. THEY ARE USED AS A SUBSTITUTE FOR ZINC SHEETS, AND POSSESS CERTAIN ADVANTAGES WHICH ZINC DOES NOT. THEY CAN BE STAMPED AND SEAMED COLD, AND CAN THUS BE USED FOR MANY PURPOSES FOR WHICH ZINC IS UNSUITABLE. THE SURFACE IS ALSO A GOOD ONE FOR PAINTING AND DECORATING. THE SHEETS CAN BE SOLDERED WITH GREATEST EASE.

BOILER PLATES.

WEIGHT PER SQUARE FOOT.

THICKNESS			Weight per Square Foot		No. of Square Feet per Gross Ton.	
Fraction of an Inch	Decimals of an Inch	Millimeter	Iron.	Steel.	Iron.	Steel.
1/16	.0625	1.588	2.5	2.55	896.	878.4
1/8	.125	3.175	5.	5.1	448.	439.2
3/16	.1875	4.762	7.5	7.65	298.7	292.8
1/4	.25	6.35	10.	10.2	224.	219.6
5/16	.3125	7.937	12.5	12.75	179.2	175.7
3/8	.375	9.525	15.	15.3	149.3	146.4
7/16	.4375	11.112	17.5	17.85	128.	125.5
1/2	.5	12.7	20.	20.4	112.	109.8
9/16	.5625	14.287	22.5	22.95	99.6	97.6
5/8	.625	15.875	25.	25.5	89.6	87.8
11/16	.6875	17.462	27.5	28.5	81.5	79.9
3/4	.75	19.05	30.	30.6	74.6	73.2
13/16	.8125	20.637	32.5	33.15	68.9	67.5
7/8	.875	22.225	35.	35.7	64.	62.8
15/16	.9375	23.812	37.5	38.25	59.7	58.6
1	1.	25.4	40.	40.8	56.	54.9

TINNED SHEETS.

"LION AND CROWN."

Can always be depended upon for High Quality and Finish.

AVERAGE NUMBER OF SHEETS IN CASE AND WEIGHT PER SHEET.

Gauge.....	18		20		22		24		26		28	
Size, Inches	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet	Number of Sheets	Weight per Sheet
30 x 72	19	30.	25	22.16	31	18.40	39	14.62	47	12.	60	9.41
36 x 72	15	36.	22	25.23	23	24.	31	18.	37	15.	.....	.....
36 x 84	14	42.	17	33.18	21	27.17	26	21.92	31	18.	.....	.....
40 x 84	12	46.66	16	34.53	19	28.69	25	22.63	30	18.66	.....	.....
42 x 84	.....	.....	15	36.14	18	32.66	21	26.	28	19.60	.....	.....
48 x 84	.....	.....	14	41.30	16	35.62	20	28.77	.....	.....	.....	.....
30 x 96	.....	.....	.....	.....	.....	.....	26	21.	.....	.....	.....	.....
36 x 96	.....	.....	16	36.	15	31.50	23	25.73	29	20.	.....	.....
40 x 96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
42 x 96	.....	.....	.....	.....	16	34.35	20	27.50	.....	.....	.....	.....
48 x 96	.....	.....	12	47.20	14	41.50	18	32.	21	27.	.....	.....

We also carry a cheaper grade in stock.

Sizes and Gauges same as "Lion and Crown."

TINNED SHEETS

FOR MILK CANS.

TABLE SHOWS WEIGHT PER SHEET AND SIZE OF CAN.

SIZE, INCHES	22 Gauge	24 Gauge	Gallons.
30 x 45	11½	9	15
30 x 50	12¾	10½	20
30 x 55	14	11½	25
30 x 58	15	12¼	30

FOR CHEESE HOOPS.

AVERAGE WEIGHT PER SHEET AND NUMBER OF SHEETS PER CASE.

Average Weight per Case 560 Lbs.

SIZE, INCHES	16 Gauge.		17 Gauge.	
	Weight per Sheet, Pounds.	Number of Sheets In Case.	Weight per Sheet, Pounds.	Number of Sheets In Case.
50 x 15	13¾	57	12	58
50 x 16	15	40	12¾	50
50 x 17	15½	38	13½	43
60 x 17	18½	30	16¼	35

FOR BOILERS.

AVERAGE WEIGHT PER SHEET AND NUMBER OF SHEETS PER CASE.

Average Weight per Case 560 Lbs.

THICKNESS.	Size of Sheet, Inches.	Weight per Sheet, Pounds.	Number of Sheets In Case.
1 x	14 x 60	4	128
1 x x	14 x 60	4½	128
1 x x x	14 x 60	5	115

TIN PLATES

TABLE SHOWING WEIGHTS IN POUNDS OF VARIOUS SIZES.

SIZES, INCHES.	Sheets.	Lights.			IC	IX	IXX	IXXX
14 x 10	225	90	95	100	108	136	156	178
14 x 20	112							
10 x 20	225	129	136	143	154	194	225	256
10 x 28	112	90	95	100	108	136	156	178
12 x 12	225	93	98	103	111	140	160	182
12 x 24	112	93	98	103	111	140	160	182
13 x 13	225	109	115	121	130	164	190	.....
14 x 14	225	126	133	140	151	190	218	248
14 x 18¾	124	92	97	102	110	140	160	182
14 x 20	112	95	100	105	113	143	163	185
14 x 28	112	125	133	140	151	191	222	252
15 x 15	225	145	153	161	174	219	252	.....
16 x 16	225	165	174	183	197	249	284	.....
17 x 17	112	93	98	103	111	140	160	182
20 x 28	112	180	190	200	216	272	314	356
20 x 30	112	192	204	214	234	292	.....	.....
20 x 33	112	212	224	236	254	320	.....	.....
20 x 36	112	232	244	257	277	350	.....	.....
20 x 39	112	.....	264	278	300	380	.....	.....

SIZE.	Sheets.	DC	DX	DXX	DXXX	DXXXX		
12½ x 17	100	94	122	143	164	185	.....	.....
Gauges.....	.....	28	25	24	23	22	.....	.....

TIN PLATE FOR HOT AIR PIPES.

Weight per Box 272 Lbs.

I X.....20″ x	30″	33″	36″	39″	
Number of Sheets per Box.....	104	95	87	80	Sheets.

TERNE PLATES

SIZE OF SHEETS		Number of Sheets in Box.	Weight per Box. Pounds.	
I C.....	20 x 28	112	200	216
I X.....	20 x 28	112	....	272
I X.....	14 x 14	225	....	190

TIN PLATES

NET AND GROSS WEIGHTS

Nominally, a box of IC 14 x 20 inches, 112 sheets, weighs 108 lbs. net, but actually 107 lbs. is a very good average weight. The following table gives approximate net and gross weights of the standard sizes:

Substance.	Size.	Sheets.	Net Weight	Gross Weight	Thickness B Gauge.
I C L 80 lbs.....	14 x 20	112	80	86	32.5
" 85 "	14 x 20	112	85	91	32.1
" 90 "	14 x 20	112	90	96	31.6
" 95 "	14 x 20	112	95	102	31.1
" 100 "	14 x 20	112	100	107	30.6
I C.....	14 x 20	112	107	114	30.
	20 x 28	56		116	
I X.....	14 x 20	112	135	143	28.1
	20 x 28	56		146	
I X X.....	14 x 20	112	156	165	26.8
	20 x 28	56		168	
I X X X.....	14 x 20	112	177	186	25.8
	20 x 28	56		188	
I X X X X.....	14 x 20	112	198	206	24.8
	20 x 28	56		208	

TAGGERS' PLATES

Substance	Size.	Sheets.	Net Weight	Gross Weight	Thickness B Gauge.
Taggers', Black, 32G	20 x 40	89-90	224	230	....
34G	20 x 40	103-104	224	230	....
36G	20 x 40	124-125	224	230	....
38G	20 x 40	154-155	224	230	....
36G	20 x 28	180	224	230	....
38G	20 x 28	224	224	230	....
Taggers' Tin, 32G	14 x 20	128	112	117	30.8
34G	14 x 20	150	112	117	32.2
36G	14 x 20	180	112	117	33.7
38G	14 x 20	225	112	117	35.6

RUSSIA IRON

Genuine.

Size of Sheets, 28 x 56 Inches.

Approximate Gauge and Weight per Sheet. **Average Weight per Matt, 200 Lbs.**

Russia Numbers.	U.S. Wire Gauge	Weight per Sheet in Pounds	Number of Sheets per Matt.
7	28	7½	37
8	27	8	32
9	26	8½	30
10	24 full	10	25
11	23	10½	24
12	22	12½	21
14	21 full	15	17

BLUE POLISHED

(Imitation Russia Iron.)

Gauge.....	18	20	22	24	26	28
SIZES, INCHES	Weight per Sheet	Weight per Sheet	Weight per Sheet	Weight per Sheet	Weight per Sheet	Weight per Sheet
72 x 24	24	18¾	15	12	9½	7½
72 x 30	30	23½	19	15	11½	9½
72 x 36	36	28	22½	18	14	11
96 x 24	32	25	20	16	12½	10
96 x 30	40	31	25	20	15½	12½

CANADA PLATES

BLACK.

All Dull. **Half Bright.** **Full Polished.**

SIZE OF SHEETS.	18 x 21	18 x 24			20 x 28
Average Number of Sheets in Box	60	52	60	75	41
" Weight per Box, lbs	112	112	112	112	112
Thickness of Sheet, Gauge	27	27	28	30	27

GALVANIZED.

SIZE OF SHEETS.	18 x 24		20 x 28	20 x 28
Average Number of Sheets in Box	52	60	47	94
" Weight per Box	112	112	112	224
Thickness of Sheet, Gauge	27	28	28	28

SHEET ZINC

APPROXIMATE WEIGHT AND THICKNESS ACCORDING TO "V.M." ZINC GAUGE.

Average Weight of Cask, 560 Lbs.

Thickness.			Weight per Square Foot in Pounds.	Size, Inches, 96 x 36.	
V. M. Zinc Gauge	Decimals of an Inch.	Imperial Stan. Wire Gauge		Weight per Sheet in Pounds.	Number of Sheets per Cask.
3	.007	37	.25	5.91	..
4	.008	36	.30	7.22	..
5	.010	33	.35	8.54	..
6	.011	32	.42	10.03	55
7	.013	29	.48	11.62	47
8	.015	27	.56	13.31	41
9	.018	26	.65	15.47	36
10	.020	25	.72	17.16	32
11	.023	23	.83	19.97	28
12	.026	..	.95	22.70	25
13	.029	22	1.06	25.41	22
14	.032	21	1.17	28.13	20
15	.038	20	1.36	32.62	17
16	.043	19	1.55	37.13	16
17	.048	18	1.73	41.54	14
18	.053	..	1.92	46.03	12
19	.058	17	2.11	50.54	..
20	.063	16	2.29	54.92	..
21	.070	15	2.55	61.13	..
22	.077	14	2.80	67.31	..

Nos. 12 and 16 also carried in Stock in Flat Cases.

ALUMINUM SHEETS

GAUGES AND WEIGHT PER SQUARE FOOT AND PER SHEET.

Size of Sheet 72″ x 24″ and 96″ x 36″.

Gauges, B. and S.	14	16	18	20	22	24	26	28
Weight per sq. ft., lbs.	.9	.73	.557	.445	.354	.29	.235	.173
Weight per Sheet:								
72″ x 24″	10.80	8.76	6.68	5.35	4.25	3.48	2.82	2.07
96″ x 36″	21.60	17.52	13.36	10.7	8.5	6.96	5.64	4.14

ALUMINUM INGOTS

YELLOW METAL

Size of Sheet, 14″ x 60″.

14 and 16 oz. to the square foot.

SPECIAL SIZES TO ORDER.

Tinned or Plain.

Used by Range Makers for Hot Water Reservoirs.

COPPER SHEETS

HOT AND COLD ROLLED.

TABLE SHOWING THICKNESSES, WEIGHT PER SQUARE FOOT AND PER SHEET.

Thickness.....	¼"	3/16"	10 Ge.	12 Ge.	14 Ge.	16 Ge.	18 Ge.	20 Ge.	22 Ge.	24 Ge.	26 Ge.	28 Ge.
Weight per sq. foot, lbs....	12.07	8.37	6.23	5.07	3.86	3.00	2.28	1.62	1.3	1.02	.832	.651

Size, Inches.	WEIGHT OF SHEETS.											
72 x 30	180	125	93	76	57	45	34	24	19	15.35	12.48	9.77
72 x 48	.....	.....	149	121	92	72	54	39	31	24.	20.	15.5
84 x 30	210	146	109	88	67	52	40	28	22	17.85	14.56	11.39
96 x 24	192	134	99	81	61	48	36	26	20	16.37	13.32	10.42
96 x 30	240	167	124	101	77	60	45	32	25	20.46	16.64	13.02
96 x 36	288	200	149	121	92	72	54	39	31	24.55	20.	15.5

ROOFING COPPER

HOT AND COLD ROLLED

14 and 16 oz. or 26 and 24G.

Sizes Carried in Stock:

96 x 24 96 x 30 96 x 36

Weights as shown in above table.

BOILER COPPER

PLAIN, TINNED AND PLANISHED.

GAUGE.	Size of Sheet.	Weight per Sq. Ft.	Weight per Sheet.
24.....	14 x 60 Inches	16 ounces	5¾ Lbs.
26.....	" "	14 "	5 "

SHEET COPPER

In Rolls 10, 12 and 14 Inches Wide

Guges	10	12	14	16	18	20 and 22

Average Weight of Rolls 65 lbs.

DYNAMO BRUSH COPPER

In Rolls 12 Inches Wide

.010 or 31 Gauge Thick.

.012 or 30 Gauge Thick.

TINNED COPPER

72" x 48", 96" x 30" and 96" x 36"

14 and 16 oz.

Carried in Stock.

Any size of Plain Sheet Copper in stock can be tinned to order.

WE DO OUR OWN TINNING.

SHEET BRASS

HARD AND SOFT

TABLE SHOWING WEIGHT PER SQUARE FOOT AND PER SHEET

Size of Sheets, 24 x 48 inches.

Thickness.....	¼"	3/16"	10Ge.	12Ge.	14Ge.	16Ge.	18Ge.	20Ge.	22Ge.	24Ge.	26Ge.	28Ge.	30Ge.
Weight per sq. ft., lbs.	11.07	8.30	5.58	4.54	3.50	2.80	2.10	1.57	1.22	.96	.78	.64	.55
Weight per Sheet "	88½	66½	44¾	36¼	28	22½	16¾	12½	9¾	7¾	6¼	5¼	4½

SHEET BRASS (In Rolls)

HARD AND SOFT.

Gauges.....	16	18	20	22	24	26	28	30	32	34
Width of Sheets.....	12 and 14 Inches.									
Weight of Rolls.....	About 65 pounds.									

COPPER BARS

HARD DRAWN (BUS BAR)

WEIGHT PER LINEAL FOOT OF STANDARD SIZES.

Rectangular or Flat.

SIZE	Lbs.	SIZE	Lbs.	SIZE	Lbs.
3/64 x 1/2 in.	.077	1/8 x 1 1/4 in.	.60	1/4 x 1 1/2 in.	1.44
1/16 x 1/2 "	.12	1/8 x 1 1/2 "	.72	1/4 x 1 3/4 "	1.68
1/16 x 5/8 "	.15	1/8 x 1 3/4 "	.84	1/4 x 2 "	1.93
1/16 x 3/4 "	.18	1/8 x 2 "	.96	5/16 x 1 1/4 "	1.612
1/16 x 7/8 "	.21	3/16 x 1/2 "	.36	5/16 x 11/16 "	2.355
1/16 x 1 "	.24	3/16 x 5/8 "	.45	3/8 x 1 "	1.44
1/16 x 1 1/4 "	.30	3/16 x 3/4 "	.54	3/8 x 1 1/4 "	1.80
1/16 x 1 1/2 "	.36	3/16 x 7/8 "	.63	3/8 x 1 1/2 "	2.16
3/32 x 5/8 "	.231	3/16 x 1 "	.72	3/8 x 1 3/4 "	2.52
3/32 x 3/4 "	.250	3/16 x 1 1/4 "	.90	3/8 x 2 "	2.88
3/32 x 1 "	.358	3/16 x 1 1/2 "	1.08	3/8 x 2 1/4 "	3.24
3/32 x 1 1/8 "	.421	3/16 x 1 3/4 "	1.26	3/8 x 2 1/2 "	3.60
3/32 x 1 1/4 "	.500	3/16 x 2 "	1.44	1/2 x 1 "	1.93
1/8 x 7/16 "	.209	1/4 x 1/2 "	.48	1/2 x 1 1/4 "	2.41
1/8 x 1/2 "	.24	1/4 x 5/8 "	.60	1/2 x 1 1/2 "	2.89
1/8 x 5/8 "	.30	1/4 x 3/4 "	.72	1/2 x 1 3/4 "	3.37
1/8 x 3/4 "	.36	1/4 x 7/8 "	.84	1/2 x 2 "	3.86
1/8 x 7/8 "	.42	1/4 x 1 "	.97	1/2 x 2 1/4 "	4.34
1/8 x 1 "	.48	1/4 x 1 1/4 "	1.20	1/2 x 2 1/2 "	4.82

Diameter	Square Lbs.	Round Lbs.	Diameter	Square Lbs.	Round Lbs.
3/8 inch	.542	.4526	1 1/2 inch	8.67	6.8109
7/16 "	.737	.5794	1 5/8 "	10.18	7.9931
1/2 "	.964	.7567	1 3/4 "	11.08	9.2702
9/16 "	1.220	.9578	1 7/8 "	13.55	10.6420
5/8 "	1.510	1.1824	2 "	15.42	12.1082
11/16 "	1.820	1.4307	2 1/4 "	19.51	15.3251
3/4 "	2.170	1.7027	2 1/2 "	24.09	18.9161
13/16 "	2.540	1.9982	2 3/4 "	29.05	22.8913
7/8 "	2.950	2.3176	3 "	34.69	27.2435
15/16 "	3.390	2.6605	3 1/4 "	40.71	31.9722
1 "	3.860	3.0270	3 1/2 "	47.22	37.0808
1 1/8 "	4.880	3.8312	3 3/4 "	54.44	42.5680
1 1/4 "	6.010	4.7228	4 "	61.67	48.4330
1 3/8 "	7.240	5.7228			

The weights given in foregoing table, while approximately correct, are not guaranteed.

SHEET LEAD



WE ARE THE ONLY MAKERS OF THIS MATERIAL IN CANADA.

Standard size of Sheets, 8 ft. x 20 ft.

TABLE SHOWING WEIGHT, GAUGE AND THICKNESS IN INCHES.

Weight per square foot.	Gauge	Thickness, in decimals	Thickness, in fractions of an inch.
2½	19	.040	3/64 scant
3	18	.048	3/64 full
3½	17	.056	1/16 scant
4	16	.064	1/16 full
4½	15	.072	1/16 full
5	14	.080	3/32 scant
6	12	.104	3/32 full
7	11	.116	1/8 scant
8	10	.128	1/8 full
10	7	.176	3/16 full
12	4	.232	7/32
14	3	.252	1/4
16	2	.276	1/4 full
18	1	.300	9/32
20	0	.324	5/16
24	..	.375	3/8
32	..	.500	1/2
60	..	1.000	1″

IRON WIRE

SOFT, ANNEALED, BRIGHT, GALVANIZED AND COPPERED

IMPERIAL STANDARD WIRE GAUGE

Weight, breaking strain and decimals of an inch.

GAUGE	Decimals of an inch	Weight per mile Lbs.	Length per 100 lbs. Yards.	Breaking strain, Bright iron wire. Lbs.	Breaking strain, Annealed iron wire. Lbs.	Corresponding Size	
						Birmingham Gauge	B. and S. Gauge
0000	.400	2179	81	10052	6702	.454	.460
000	.372	1885	94	8694	5796	.425	.410
00	.348	1649	107	7608	5072	.380	.365
0	.324	1429	123	6595	4397	.340	.325
1	.300	1225	144	5655	3770	.300	.289
2	.276	1037	170	4785	3190	.284	.258
3	.252	864	203	3990	2660	.259	.229
4	.232	732	240	3381	2254	.238	.204
5	.212	612	288	2824	1883	.220	.182
6	.192	502	351	2316	1544	.203	.162
7	.176	422	417	1946	1298	.180	.144
8	.160	348	505	1608	1072	.165	.128
9	.144	282	625	1303	869	.148	.114
10	.128	223	787	1030	687	.134	.102
11	.116	183	961	845	564	.120	.091
12	.104	148	1190	680	454	.109	.081
13	.092	114	1538	532	355	.095	.072
14	.080	81	2000	402	268	.083	.064
15	.072	70	2500	326	218	.072	.057
16	.064	56	3125	257	172	.065	.051
17	.056	42	4197	197	131	.058	.045
18	.048	32	5555	145	97	.049	.040

Average weight of bundles, 65 lbs.
Stove pipe wire No. 19 in. $\frac{1}{4}$-lb. Hanks, Bundles of 25 lbs.

IRON PIPE

FULL STANDARD WEIGHT—BLACK AND GALVANIZED

All Weights and Dimensions are Nominal

Size	List Price per Foot	DIAMETERS		Thickness	WEIGHT PER FOOT		Threads per inch.
		External	Internal		Plain Ends	Threads and Couplings	
⅛	$ .05½	.405	.269	.068	.244	.245	27
¼	.06	.540	.364	.088	.424	.425	18
⅜	.06	.675	.493	.091	.567	.568	18
½	.08½	.840	.622	.109	.850	.852	14
¾	.11½	1.050	.824	.113	1.130	1.134	14
1	.17	1.315	1.049	.133	1.678	1.684	11½
1¼	.23	1.660	1.380	.140	2.272	2.281	11½
1½	.27½	1.900	1.610	.145	2.717	2.731	11½
2	.37	2.375	2.067	.154	3.652	3.678	11½
2½	.58½	2.875	2.469	.203	5.793	5.819	8
3	.76½	3.500	3.068	.216	7.575	7.616	8
3½	.92	4.000	3.548	.226	9.109	9.202	8
4	1.09	4.500	4.026	.237	10.790	10.889	8
4½	1.27	5.000	4.506	.247	12.538	12.642	8
5	1.48	5.563	5.047	.258	14.617	14.810	8
6	1.92	6.625	6.065	.280	18.974	19.185	8
7	2.38	7.625	7.023	.301	23.544	23.769	8
8	2.50	8.625	8.071	.277	24.696	25.000	8
8	2.88	8.625	7.981	.322	28.554	28.809	8
9	3.45	9.625	8.941	.342	33.907	34.188	8
10	3.20	10.750	10.192	.279	31.201	32.000	8
10	3.50	10.750	10.136	.307	34.240	35.000	8
10	4.12	10.750	10.020	.365	40.483	41.132	8
11	4.63	11.750	11.000	.375	45.557	46.247	8
12	4.50	12.750	12.090	.330	43.773	45.000	8
12	5.07	12.750	12.000	.375	49.562	50.706	8
13	5.60	14.000	13.250	.375	54.568	55.824	8
14	6.10	15.000	14.250	.375	58.573	60.375	8
15	6.50	16.000	15.250	.375	62.579	64.500	8

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

Furnished with threads and couplings and in random lengths unless otherwise ordered.

All weights given in pounds. All dimensions given in inches.

For cut lengths, an extra charge will be made above random lengths.

For pipe smoothed on the inside, known as reamed and drifted, an extra charge will be made above standard pipe.

For Galvanized or Coated pipe, an extra charge will be made above Black.

For other measurements, see List, Page 438.

IRON PIPE

EXTRA STRONG PIPE—DOUBLE EXTRA STRONG PIPE
Full Standard Weight.

EXTRA STRONG PIPE—BLACK AND GALVANIZED
All Weights and Dimensions are Nominal.

Size	List Price per Foot	DIAMETERS		Thickness	Weight per Foot Plain Ends
		External	Internal		
⅛	$ .12	.405	.215	.095	.314
¼	.07½	.540	.302	.119	.535
⅜	.07½	.675	.423	.126	.738
½	.11	.840	.546	.147	1.087
¾	.15	1.050	.742	.154	1.473
1	.22	1.315	.957	.179	2.171
1¼	.30	1.660	1.278	.191	2.996
1½	.36½	1.900	1.500	.200	3.631
2	.50½	2.375	1.939	.218	5.022
2½	.77	2.875	2.323	.276	7.661
3	1.03	3.500	2.900	.300	10.252
3½	1.25	4.000	3.364	.348	12.505
4	1.50	4.500	3.826	.337	14.983
4½	1.80	5.000	4.290	.355	17.611
5	2.08	5.563	4.813	.375	20.778
6	2.86	6.625	5.761	.432	28.573
7	3.81	7.625	6.625	.500	38.048
8	4.34	8.625	7.625	.500	43.388
9	4.90	9.625	8.625	.500	48.728
10	5.48	10.750	9.750	.500	54.725
11	6.10	11.750	10.750	.500	60.075
12	6.55	12.750	11.750	.500	65.415

The permissible variation in weight is 5 per cent. above and 5 per cent. below.

DOUBLE EXTRA STRONG PIPE—BLACK AND GALVANIZED
All Weights and Dimensions are Nominal.

Size	List Price per Foot	DIAMETERS		Thickness	Weight per Foot Plain Ends
		External	Internal		
½	$ .32	.840	.252	.294	1.714
¾	.35	1.050	.434	.308	2.440
1	.37	1.315	.599	.358	3.659
1¼	. 52½	1.660	.896	.382	5.214
1½	.65	1.900	1.100	.400	6.408
2	.91	2.375	1.503	.436	9.029
2½	1.37	2.875	1.771	.552	13.695
3	1.86	3.500	2.300	.600	18.583
3½	2.30	4.000	2.728	.636	22.850
4	2.76	4.500	3.152	.674	27.541
4½	3.26	5.000	3.580	.710	32.530
5	3.86	5.563	4.063	.750	38.552
6	5.32	6.625	4.897	.864	53.160
7	6.35	7.625	5.875	.875	63.079
8	7.25	8.625	6.875	.875	72.424

The permissible variation in weight is 10 per cent. above and 10 per cent. below.

The following notes apply to both tables:

Furnished with plain ends and in random lengths, unless otherwise ordered.

All weights given in pounds. All dimensions given in inches.

Random length of Extra Strong and Double Extra Strong pipe is considered to be 12 feet to 22 feet, we to have the privilege, however, of supplying not exceeding 5 per cent. of total order in lengths from 6 to 12 feet.

For pipe fitted with threads and couplings, an extra charge will be made above plain ends.

For cut lengths, an extra charge will be made above random.

For Galvanized, or Coated pipe, an extra charge will be made above Black.

For other measurements, see List, page 439.

TABLE OF DIMENSIONS

OF

STANDARD WEIGHT WROUGHT-IRON PIPE.

Inside Diameter.	Actual Outside Diameter.	Thickness.	Actual Inside Diameter.	Inside Circumference.	Outside Circumference.	Length of Pipe per square foot of inside surface.	Length of Pipe per square foot of outside surface.	Inside Area.	Outside Area.	Length of Pipe containing one cubic foot.	Weight per foot.	No. of Threads per inch of screw.	Taper of Threads per inch of screw.
Ins.	Inches	Inches	Inches	Inches	Inches	Feet	Feet	Inches	Inches	Feet	Lbs.		In.
$\frac{1}{8}$	0.405	0.068	0.270	0.848	1.272	14.15	9.44	0.0572	0.129	2500.	0.243	27	$\frac{1}{32}$
$\frac{1}{4}$	0.54	0.088	0.364	1.144	1.696	10.50	7.075	0.1041	0.229	1385.	0.422	18	$\frac{1}{32}$
$\frac{3}{8}$	0.675	0.091	0.494	1.552	2.121	7.67	5.657	0.1916	0.358	751.5	0.561	18	$\frac{1}{32}$
$\frac{1}{2}$	0.84	0.109	0.623	1.957	2.652	6.13	4.502	0.3048	0.554	472.4	0.845	14	$\frac{1}{32}$
$\frac{3}{4}$	1.05	0.113	0.824	2.589	3.299	4.635	3.637	0.5333	0.866	270.	1.126	14	$\frac{3}{32}$
1	1.315	0.134	1.048	3.292	4.134	3.679	2.903	0.8627	1.357	166.9	1.670	$11\frac{1}{2}$	$\frac{1}{32}$
$1\frac{1}{4}$	1.66	0.140	1.380	4.335	5.215	2.768	2.301	1.496	2.164	96.25	2.258	$11\frac{1}{2}$	$\frac{1}{32}$
$1\frac{1}{2}$	1.90	0.145	1.611	5.061	5.969	2.371	2.01	2.038	2.835	70.65	2.694	$11\frac{1}{2}$	$\frac{1}{32}$
2	2.375	0.154	2.067	6.494	7.461	1.848	1.611	3.355	4.430	42.36	3.600	$11\frac{1}{2}$	$\frac{1}{32}$
$2\frac{1}{2}$	2.875	0.204	2.468	7.754	9.032	1.547	1.328	4.783	6.491	30.11	5.773	8	$\frac{1}{32}$
3	3.50	0.217	3.067	9.636	10.996	1.245	1.091	7.388	9.621	19.49	7.547	8	$\frac{1}{32}$
$3\frac{1}{2}$	4.00	0.226	3.548	11.146	12.566	1.077	0.955	9.887	12.566	14.56	9.055	8	$\frac{1}{32}$
4	4.50	0.237	4.026	12.648	14.137	0.949	0.849	12.730	15.904	11.31	10.66	8	$\frac{1}{32}$
$4\frac{1}{2}$	5.00	0.247	4.508	14.153	15.708	0.848	0.765	15.939	19.635	9.03	12.34	8	$\frac{1}{32}$
5	5.563	0.259	5.045	15.849	17.475	0.757	0.629	19.990	24.299	7.20	14.50	8	$\frac{1}{32}$
6	6.625	0.280	6.065	19.054	20.813	0.63	0.577	28.889	34.471	4.98	18.767	8	$\frac{1}{32}$
7	7.625	0.301	7.023	22.063	23.954	0.544	0.595	38.737	45.663	3.72	23.27	8	$\frac{1}{32}$
8	8.625	0.322	7.982	25.076	27.096	0.478	0.444	50.039	58.426	2.88	28.177	8	$\frac{1}{32}$
9	9.625	0.344	9.001	28.277	30.433	0.425	0.394	63.633	73.715	2.26	33.70	8	$\frac{1}{64}$
10	10.75	0.366	10.019	31.475	33.772	0.381	0.355	78.838	90.762	1.80	40.06	8	$\frac{1}{64}$
11	12.00	0.375	11.25	35.343	37.699	0.340	0.318	98.942	113.097	1.455	45.95	8	$\frac{1}{64}$
12	12.75	0.375	12.000	38.264	40.840	0.313	0.293	116.535	132.732	1.235	48.95	8	$\frac{1}{64}$
13	14.00	0.375	13.25	41.268	43.982	0.290	0.273	134.582	153.938	1.069	53.92	8	$\frac{1}{64}$
14	15.00	0.375	14.25	44.271	47.124	0.271	0.254	155.968	176.715	.923	57.89	8	$\frac{1}{64}$
..	16.00	0.375	15.25	47.274	50.265	0.254	0.238	177.867	201.062	.809	61.77	...	..
..	18.00	0.375	17.25	53.281	56.548	0.225	0.212	225.907	254.469	.638	69.66	...	..
..	20.00	0.375	19.25	59.288	62.832	0.202	0.191	279.720	314.160	.515	77.57	...	..
..	22.00	0.375	21.25	66.759	69.115	0.179	0.174	354.66	380.134	.406	85.47	...	..
..	24.00	0.375	23.25	73.04	75.39	0.164	0.159	424.56	452.39	.339	93.37	...	..

AVERAGE NUMBER OF LENGTHS AND FEET IN EACH BUNDLE.

Sizes, Inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2 and larger
No. Lengths in Bundles..	40	20	15	10	7	5	3	3	Not bundled
No. Feet " " ..	560	300	300	200	140	100	60	60	19 to 21 feet lengths
Approx. Weight.....	135	126	178	167	157	167	135	160	

For List Prices, see page 436.

TABLE OF DIMENSIONS OF EXTRA STRONG WROUGHT-IRON PIPE.

Nominal Inside Diam.	Actual Inside Diam.	Actual Outside Diam.	Thick-ness	Inside Circum-ference	Outside Circum-ference	Length of Pipe per Sq. foot of Inside Surface	Length of Pipe per Sq. foot of Outside Surface	Inside Area	Outside Area	Nominal Weight per foot
Inches	Inches	Inches	Inches	Inches	Inches	Feet	Feet	Sq. Ins.	Sq. Ins.	Pounds
⅛	.20	.40	.10	.64	1.27	18.63	9.43	.03	.12	.29
¼	.29	.54	.12	.92	1.69	12.98	7.07	.06	.22	.54
⅜	.42	.67	.12	1.32	2.12	9.07	5.65	.13	.35	.74
½	.54	.84	.14	1.70	2.63	7.04	4.54	.23	.55	1.09
¾	.73	1.05	.15	2.31	3.29	5.10	3.63	.45	.86	1.39
1	.95	1.31	.18	2.98	4.13	4.01	2.90	.71	1.35	2.17
1¼	1.27	1.66	.19	3.99	5.21	3.00	2.30	1.27	2.16	3.00
1½	1.49	1.90	.20	4.69	5.96	2.55	2.01	1.75	2.83	3.63
2	1.93	2.37	.22	6.07	7.46	1.97	1.60	2.93	4.43	5.02
2½	2.31	2.87	.28	7.27	9.03	1.64	1.32	4.20	6.49	7.67
3	2.89	3.50	.30	9.08	10.99	1.32	1.00	6.56	9.62	10.25
3½	3.35	4.00	.32	10.54	12.56	1.13	.95	8.85	12.56	12.47
4	3.81	4.50	.34	11.99	14.13	1.00	.84	11.44	15.90	14.97
4½	4.25	5.00	.35	13.35	15.71	.90	.76	14.18	19.63	17.60
5	4.81	5.56	.37	15.12	17.47	.79	.68	18.19	24.30	20.54
6	5.75	6.62	.43	18.06	20.81	.66	.57	25.93	34.47	28.58
7	6.62	7.62	.50	20.81	23.95	.58	.50	34.47	45.66	37.60
8	7.50	8.62	.56	23.56	27.10	.51	.44	44.18	58.42	47.85

Extra strong and double extra strong pipe is always shipped without Threads or Couplings, unless otherwise specified.

Threads and Couplings on extra strong pipe are always charged extra. Quotations will not cover them unless they are clearly specified in requests for prices.

For prices, see latest current lists.

TABLE OF DIMENSIONS OF DOUBLE EXTRA STRONG WROUGHT-IRON PIPE.

Nominal Inside Diam.	Actual Inside Diam.	Actual Outside Diam.	Thick-ness	Inside Circum-ference	Outside Circum-ference	Length of Pipe per Sq. foot of Inside Surface	Length of Pipe per Sq. foot of Outside Surface	Inside Area	Outside Area	Nominal Weight per foot
Inches	Inches	Inches	Inches	Inches	Inches	Feet	Feet	Sq. Ins.	Sq. Ins.	Pounds
½	.24	.84	.29	.76	2.63	15.66	4.54	.05	.55	1.50
¾	.42	1.05	.31	1.32	3.29	9.04	3.63	.13	.86	2.30
1	.58	1.31	.36	1.84	4.13	6.50	2.90	.27	1.35	3.40
1¼	.88	1.66	.38	2.78	5.21	4.31	2.30	.61	2.16	5.00
1½	1.08	1.90	.40	3.41	5.96	3.51	2.01	.93	2.83	6.45
2	1.49	2.37	.44	4.68	7.46	2.56	1.60	1.74	4.43	9.00
2½	1.75	2.87	.56	5.51	9.03	2.17	1.32	2.41	6.49	13.30
3	2.28	3.50	.60	7.17	10.99	1.67	1.09	4.09	9.62	18.50
3½	2.71	4.00	.64	8.53	12.56	1.40	.95	5.79	12.56	22.00
4	3.13	4.50	.68	9.85	14.13	1.21	.84	7.72	15.90	27.48
4½	3.56	5.00	.72	11.20	15.71	1.05	.76	9.96	19.64	32.45
5	4.06	5.56	.75	12.56	17.47	.94	.68	12.69	24.30	38.12
6	4.87	6.62	.78	15.89	20.81	.78	.57	20.10	34.47	53.11
7	5.98	7.62	.82	18.83	23.95	.62	.50	28.16	45.66	60.34
8	6.88	8.62	.87	21.61	27.10	.56	.44	37.17	58.43	71 52

Extra strong and double extra strong pipe is always shipped without Threads or Couplings unless otherwise specified.

Threads and Couplings on extra strong and double extra strong pipe are always charged extra. Quotations will not cover them unless they are clearly specified in requests for prices.

For prices, see latest current lists.

For List Prices, see page 437.

WIRE NAILS

STANDARD COMMON WIRE NAILS.

Bright and Galvanized.

Length, Inches	1½	2	2½	3	3½	4	5	6
Gauge	13	12	10½	9	7	6	4	2
Approximate number per lb	357	204	112	69	43	31	18	13

ROOFING AND SLATING NAILS.

Bright and Galvanized.

Length, Inches	1	1⅛	1¼	1½	1¾	2	2½
Gauge	12	12	11	11	10	10	9
Approximate number per lb	411	365	251	210	151	126	82

EAVE TROUGH SPIKES

FLAT HEAD

Length, Inches	5	5½	6
Gauge	4	5	3
Approximate number per lb	18	20	13

CUT NAILS

BLACK OR GALVANIZED

Length, Inches	1	1⅛	1¼	1½
Number to 1 lb	850	800	550	350

WINDOW BARS

GALVANIZED

For Reinforcing Leaded Glass Work

Sizes in stock.....⅛" x ⅜" 1/16" x 3/16".

Other Sizes to order.

ANGLE IRON

Standard Sections.—All sizes.

LEAD ROOFING WASHERS



One pound contains about 325 washers and sufficient for 2 to 3 squares of Corrugated Roof.

INGOT METALS

ALUMINUM



Ingots about 2 lbs.

COPPER



Ingots about 20 lbs.

PIG LEAD



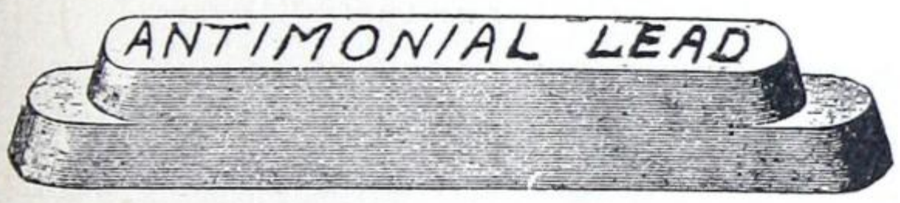
Pigs about 120 lbs. English
" " 90 lbs. Canadian

CAULKING LEAD



Ingots about 8 lbs.

ANTIMONIAL LEAD



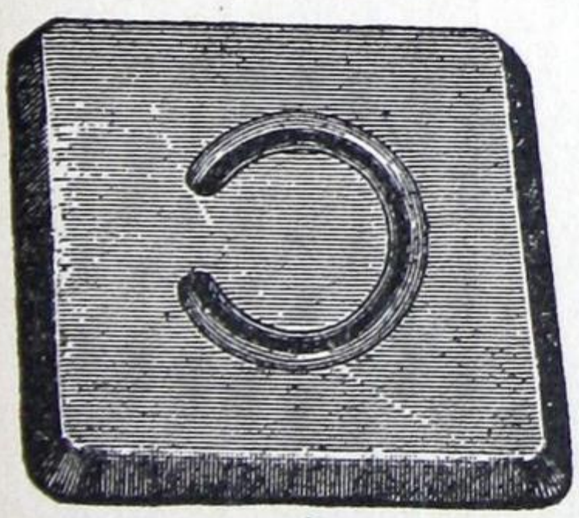
Pigs about 100 lbs.

TIN



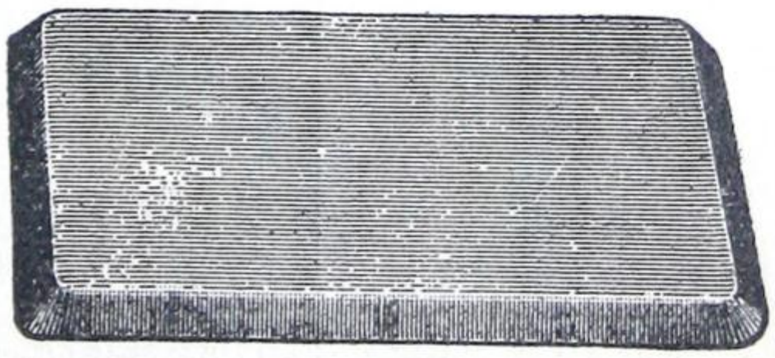
L. & F. Ingots about 30 and 56 lbs.
Straits " " 108 lbs.

ANTIMONY



Cakes about 35 lbs.

ZINC SPELTER



Cakes about 45 lbs.

WEIGHT OF METALS

WEIGHT OF VARIOUS METALS IN POUNDS PER SQUARE FOOT

Thickness, inches	Decimals of an inch	Copper	Brass	Lead	Zinc.	Wrought Iron	Tin
1/16	.062	2.9	2.6	3.7	2.3	2.5	2.4
1/8	.125	5.8	5.3	7.4	4.7	5.0	4.8
3/16	.187	8.7	8.2	11.2	7.0	7.5	7.2
1/4	.25	11.6	11.0	14.9	9.2	10.0	9.6
5/16	.312	14.5	13.7	18.6	11.7	12.5	12.0
3/8	.375	17.2	16.4	22.3	14.0	15.0	14.4
7/16	.437	20.0	19.2	26.0	16.4	17.5	16.8
1/2	.5	22.9	21.9	29.7	18.7	20.0	19.3
9/16	.562	25.7	24.6	33.4	21.1	22.5	21.7
5/8	.625	28.6	27.4	37.1	23.4	25.0	24.1
11/16	.687	31.4	30.1	49.0	25.7	27.5	26.5
3/4	.75	34.3	32.9	44.6	28.1	30.0	28.9
13/16	.812	37.2	35.6	48.3	30.4	32.5	31.3
7/8	.875	40.	38.3	52.0	32.8	35.0	33.7
15/16	.937	42.9	41.2	55.7	35.1	37.5	36.1
1	1.00	45.8	43.9	59.4	37.5	40.0	38.5

WEIGHT OF VARIOUS METALS IN POUNDS PER SQUARE FOOT BY IMPERIAL WIRE GAUGE

Thickness Gauge	Decimals of an inch	Iron	Steel	Copper	Brass	Lead	Zinc
8	.160	6.40	6.53	7.32	7.00	9.54	6.00
9	.144	5.76	6.13	6.58	6.30	8.58	5.40
10	.128	5.12	5.22	5.85	5.58	7.62	4.80
11	.116	4.64	4.73	5.31	5.07	6.91	4.35
12	.104	4.16	4.24	4.75	4.54	6.20	3.89
13	.092	3.68	3.76	4.21	4.03	5.49	3.45
14	.080	3.20	3.26	3.66	3.50	4.77	3.00
15	.072	2.88	2.94	3.30	3.14	4.30	2.70
16	.064	2.56	2.60	2.92	2.80	3.81	2.40
17	.054	2.24	2.19	2.46	2.35	3.21	2.02
18	.048	1.92	1.96	2.20	2.10	2.86	1.80
19	.040	1.60	1.63	1.83	1.75	2.38	1.49
20	.036	1.44	1.47	1.64	1.57	2.14	1.35
21	.032	1.28	1.31	1.47	1.41	1.92	1.24
22	.028	1.12	1.14	1.28	1.22	1.66	1.05
23	.024	.96	.97	1.09	1.04	1.43	.89
24	.022	.88	.89	1.00	.96	1.30	.82
25	.020	.80	.81	.91	.87	1.18	.74
26	.018	.72	.73	.82	.78	1.06	.67
27	.0164	.656	.67	.75	.71	.97	.62
28	.0148	.592	.60	.66	.64	.87	.54
29	.0136	.544	.55	.62	.60	.81	.50
30	.0124	.496	.50	.58	.55	.75	.47

THE METRIC SYSTEM

The metric system is based on the meter, which is equal to 39.370432 inches. The value commonly used is 39.37 inches. The meter is defined as one ten millionth the distance from the pole to the equator, measured on a meridian passing near Paris.

There are three principal units—the meter, the liter (pronounced lee-ter), and the gram, the units of length, capacity and weight, respectively. Multiples of these units are obtained by prefixing to the names of the principal units the Greek words Deca(10), hecto (100), and kilo (1,000); the sub-multiples or divisions are obtained by prefixing the Latin words Deci (1-10), centi (1-100), and milli (1-1000). These prefixes form the key to the entire system. In the following tables the abbreviations of the principal units of these sub-multiples begin with a small letter, while those of the multiples begin with a capital letter; they should always be written as here printed.

MEASURES OF LENGTH

NAME		METERS		INCHES		FEET
Millimeter (mm.)	=	.001	=	.039370	=	.003281
Centimeter (cm.)	=	.010	=	.393704	=	.032809
Decimeter (dm.)	=	.100	=	3.937043	=	.328087
Meter (m.)	=	1.000	=	39.370432	=	3.280869
Decameter (Dm.)	=	10.000	=		=	32.808690
Hectometer (Hm.)	=	100.000	=		=	328.086900
Kilometer (Km.)	=	1,000.000	=	.621 miles.	=	3,280.869000
Myriameter (Mm.)	=	10,000.000	=	6.214 miles.	=	32,808.690000

The centimeter, meter and kilometer are the units in practical use, and may be said to occupy the same position in the meteric system as do inches, yards and miles in the English system of measurement.

MEASURES OF AREA

NAME		SQ. MET.		SQ. IN.		SQ. FT.
Sq. millimeter (mm.^{2})	=	.0000010	=	.001550		
Sq. centimeter (cm.^{2})	=	.0001000	=	.155003	=	.00107641
Sq. decimeter (dm.^{2})	=	.0100000	=	15.5003	=	.10764100
Sq. meter or centare (m.^{2}, or ca.)	=	1.0000000	=	1,550.03	=	10.76410000
Sq. decameter, or are (Dm.^{2}, or A)	=	100.0000000	=	155,003.	=	1,076.4101
Hectare	=	10,000.0000000			=	107,641.01
Sq. kilometer	=	.3861099 sq. miles.			=	10,764,101.
Sq. myriameter	=	38.6109000 sq. miles.				

MEASURES OF VOLUME

NAME		CU. MET.		CU. IN.		CU. FT.		CU. Y
Cu. centimeter (cm.^{3})	=	.000001	=	.061025				
Cu. decimeter (dm.^{3})	=	.001000	=	61.0254				
Centistere	=	.010000	=	610.2540	=	.35316		
Decistere	=	.100000			=	3.53156		
Stere = cu. m. (m.^{3})	=	1.000000			=	35.3156	=	1.308
Decastere	=	10.000000			=	353.156	=	13.080

COMPARISON OF DIFFERENT GAUGES IN USE

Number on Gauge	Birmingham Gauge	British Imperial Standard	Stubs	Brown & Sharpe	American S. & W. (Washburn & Moen)	U.S. Standard Plate & Sheet
0	.3964	.324	.340	.32486	.3065	.3125
1	.3532	.300	.300	.2898	.2830	.28125
2	.3147	.276	.284	.25763	.2625	.265265
3	.2804	.252	.259	.22942	.2437	.25
4	.250	.232	.238	.20431	.2253	.234375
5	.2225	.212	.220	.18194	.2070	.21875
6	.1981	.192	.203	.16202	.1920	.203125
7	.1764	.176	.180	.14428	.1770	.1875
8	.1570	.160	.165	.12849	.1620	.171875
9	.1398	.144	.148	.11443	.1483	.15625
10	.1250	.128	.134	.10189	.1350	.140625
11	.1113	.116	.120	.090742	.1205	.125
12	.0991	.104	.109	.080808	.1055	.109375
13	.0882	.092	.095	.071961	.0915	.09375
14	.0785	.080	.083	.064084	.0800	.078125
15	.0699	.072	.072	.057068	.0720	.0703125
16	.0625	.064	.065	.05082	.0625	.0625
17	.0556	.056	.058	.045257	.0540	.05625
18	.0495	.048	.049	.040303	.0475	.05
19	.0440	.040	.042	.03589	.0410	.04375
20	.0392	.036	.035	.031961	.0348	.0375
21	.0349	.032	.032	.028462	.03175	.034375
22	.03125	.028	.028	.025347	.0286	.03125
23	.02782	.024	.025	.022571	.0258	.028125
24	.02476	.022	.022	.0201	.0230	.025
15	.02204	.020	.020	.0179	.0204	.021875
26	.01961	.018	.018	.01594	.0181	.01875
27	.01745	.0164	.016	.014195	.0173	.017875
28	.015625	.0148	.014	.012641	.0162	.015625
29	.0139	.0136	.013	.011257	.0150	.0140625
30	.0123	.0124	.012	.010025	.0140	.0125
31	.0110	.0116	.010	.008928	.0132	.0109375
32	.0098	.0108	.009	.00795	.0128	.0101562
33	.0087	.0100	.008	.00708	.0118	.009375
34	.0077	.0092	.007	.006304	.0104	.0085937
35	.0069	.0084	.005	.005614	.0095	.0078125
36	.0061	.0076	.004	.005	.0090	.0070331

Birmingham Gauge is the standard in Great Britain and Canada for sheet iron.

British Imperial Wire Gauge, W.G. or S.W.G. is the only legal wire gauge of Great Britain and is used throughout Britain and by the Canadian Customs and wire mills for wire, sheets and hoops.

Stubs or Warrington Wire Gauge is largely used by wire makers, especially in the United States.

Brown and Sharpe or American Standard Wire Gauge is the standard of the Brass makers in the United States and is largely used for gauging sheets and wire for electrical purposes in the United States and Canada.

American Steel and Wire is used by American wire makers as the standard for all ordinary iron and steel wire.

U. S. Standard Plate and Sheet Gauge is the standard for iron and steel plates and sheets in the United States.

NOTE.—The term **"B.W.G."** or Birmingham wire gauge is used referring to the old Birmingham gauge, but very often Stubs gauge is erroneously called B.W.G. or B.G. especially in the United States. This gauge (B.W.G.) is now obsolete, and as a matter of fact there is no recognized standard for it.

DECIMAL EQUIVALENTS

8ths, 16ths, 32nds and 64ths of an Inch

8ths	32nds	64ths	64ths
1/8 = .125	1/32 = .03125	1/64 = .015625	33/64 = .515625
1/4 = .250	3/32 = .09375	3/64 = .046875	35/64 = .546875
3/8 = .375	5/32 = .15625	5/64 = .078125	37/64 = .578125
1/2 = .500	7/32 = .21875	7/64 = .109375	39/64 = .609375
5/8 = .625	9/32 = .28125	9/64 = .140625	41/64 = .640625
3/4 = .750	11/32 = .34375	11/64 = .171875	43/64 = .671875
7/8 = .875	13/32 = .40625	13/64 = .203125	45/64 = .703125
16ths	15/32 = .46875	15/64 = .234375	47/64 = .734375
1/16 = .0625	17/32 = .53125	17/64 = .265625	49/64 = .765625
3/16 = .1875	19/32 = .59375	19/64 = .296875	51/64 = .796875
5/16 = .3125	21/32 = .65625	21/64 = .328125	53/64 = .828125
7/16 = .4375	23/32 = .71875	23/64 = .359375	55/64 = .859375
9/16 = .5625	25/32 = .78125	25/64 = .390625	57/64 = .890625
11/16 = .6875	27/32 = .84375	27/64 = .421875	59/64 = .921875
13/16 = .8125	29/32 = .90625	29/64 = .453125	61/64 = .953125
15/16 = .9375	31/32 = .96875	31/64 = .484375	63/64 = .984375

RELATIVE WEIGHT OF METALS

The weight of Cast Iron being	1.
Bar Iron	1.07
Steel	1.08
Brass	1.16
Copper	1.21
Lead	1.56

WEIGHTS, SPECIFIC GRAVITY AND MELTING POINTS OF METALS

METALS	Weight per Cubic inch	Specific gravity	Melting point Fahr.	METALS	Weight per Cubic inch	Specific gravity	Melting point Fahr.
Aluminum, Ingot	.0926	2.56	1400°	Iron, Cast	.2555	7.065	2250°
" Bronze	.2785	7.7	.....	" Wire	.2811	7.774	.....
Antimony	.2428	6.712	810°	" Plates	.2787	7.704	.....
Bismuth	.3553	9.823	476°	" Wrought	.2817	7.788	2822°
Brass, Hard Sheet	.3056	8.45	.....	Lead, Cast	.4106	11.352	608°
" Soft	.2997	8.3	.....	" Sheet	.4119	11.388	.....
" Plate	.3026	8.38	.....	Manganese	.2894	8.	.....
" Cast	.293	8.1	.....	Nickel	.3183	8.8	.....
" Wire	.2972	8.214	.....	Steel Plates	.2823	7.806	2500°
Bronze, Tobin	.3021	8.379	.....	" Wire	.2838	7.847	.....
" Gun Metal	.3165	8.75	1692°	" Cast	.2839	7.848	2462°
Copper Plates	.3146	8.698	.....	" Bessemer	.284	7.852	.....
" Wire	.3212	8.88	.....	Tin, Cornish, Pure	.2637	7.291	446°
" Ingot	.3113	8.608	1996°	Zinc	.2482	6.861	680°

TABLE OF DIAMETER, AREA AND CIRCUMFERENCE OF CIRCLES

Diameter	Area	Cir.	Diameter	Area	Cir.	Diameter	Area	Cir.
1/8	0.0123	.3927	16	201.06	50.26	54	2290.2	169.6
1/4	0.0492	.7854	1/2	213.82	51.83	55	2375.8	172.8
3/8	0.1104	1.178	17	226.98	53.40	56	2463.0	175.9
1/2	0.1963	1.571	1/2	240.53	54.98	57	2551.8	179.1
5/8	0.3068	1.963	18	254.47	56.55	58	2642.1	182.2
3/4	0.4418	2.356	1/2	268.80	58.12	59	2734.0	185.3
7/8	0.6013	2.741	19	283.53	59.69	60	2827.4	188.5
1	0.7854	3.142	1/2	298.65	61.26	61	2922.5	191.6
1/8	0.9940	3.534	20	314.16	62.83	62	3019.1	194.8
1/4	1.227	3.927	1/2	330.06	64.40	63	3117.2	197.9
3/8	1.485	4.319	21	346.36	65.97	64	3217.0	201.0
1/2	1.767	4.712	1/2	363.05	67.54	65	3318.3	204.2
5/8	2.074	5.105	22	380.13	69.11	66	3421.2	207.3
3/4	2.405	5.498	1/2	397.61	70.68	67	3525.7	210.5
7/8	2.761	5.890	23	415.48	72.25	68	3631.7	213.6
2	3.142	6.283	1/2	433.74	73.83	69	3739.3	216.7
1/4	3.976	7.068	24	452.29	75.40	70	3848.5	219.9
1/2	4.909	7.854	1/2	471.43	76.97	71	3959.2	223.0
3/4	5.939	8.639	25	490.87	78.54	72	4071.5	226.2
3	7.068	9.425	26	530.93	81.68	73	4185.4	229.3
1/4	8.296	10.21	27	572.56	84.82	74	4300.8	232.5
1/2	9.621	10.99	28	615.75	87.96	75	4417.9	235.6
3/4	11.044	11.78	29	660.52	91.10	76	4536.5	238.7
4	12.566	12.56	30	706.86	94.25	77	4656.7	241.9
1/2	15.904	14.14	31	754.77	97.39	78	4778.4	245.0
5	19.635	15.71	32	804.25	100.5	79	4901.7	248.2
1/2	23.758	17.23	33	855.30	103.6	80	5026.6	251.3
6	28.274	18.85	34	907.92	106.8	81	5153.0	254.5
1/2	33.183	20.42	35	962.11	109.9	82	5281.0	257.6
7	38.484	21.99	36	1017.9	113.1	83	5410.6	260.7
1/2	44.179	23.56	37	1075.2	116.2	84	5541.8	263.9
8	50.265	25.13	38	1134.1	119.4	85	5674.5	267.0
1/2	56.745	26.70	39	1194.6	122.5	86	5808.8	270.2
9	63.617	28.27	40	1256.6	125.6	87	5944.7	273.3
1/2	70.882	29.84	41	1320.2	128.8	88	6082.1	276.4
10	78.54	31.41	42	1384.4	131.9	89	6221.1	279.6
1/2	86.59	32.98	43	1452.2	135.1	90	6351.7	282.7
11	95.03	34.55	44	1520.5	138.2	91	6503.9	285.9
1/2	103.87	36.13	45	1590.4	141.4	92	6647.6	289.0
12	113.10	37.70	46	1661.9	144.5	93	6792.9	292.2
1/2	122.72	39.27	47	1734.9	147.6	94	6939.8	295.3
13	132.73	40.84	48	1809.6	150.8	95	7088.2	298.4
1/2	143.14	42.41	49	1885.7	153.9	96	7238.2	301.6
14	153.94	43.98	50	1963.5	157.1	97	7389.8	304.7
1/2	165.13	45.55	51	2042.8	160.2	98	7543.0	307.9
15	176.71	47.12	52	2123.7	163.3	99	7697.7	311.0
1/2	188.69	48.69	53	2206.2	166.5	100	7854.0	314.2

To find the circumference and area of any diameter greater than any in the above table:

RULE—Multiply any diameter given above by the factor 2, 3, 4 or 5, etc., the product of which will be the diameter whose circumference and area is wanted. **Example:** What is the circumference of 140? Tabular diameter of 35 x 4 = 140. Tabular circumference of 35=109.9 x 4=439.6, circumference wanted.

RULE FOR THE AREA—Multiply the tabular area of tabular diameter by the square of the factor. **Example:** What is the area of 140? Tabular area of 35=962.11 x 16 (16 is the square of the factor 4)= 15,393.76, area wanted.

RULES RELATIVE TO THE CIRCLE

To find Circumference:

Multiply diameter by 3.1416.
Or divide " " 0.3183.

To find Diameter:

Multiply circumference by 0.3183.
Or divide " " 3.1416.

To find Radius:

Multiply circumference by 0.15915.
Or divide " " 6.28318.

To find Side of an Inscribed Square:

Multiply diameter by 0.7071.
Or multiply circumference by 0.2251.
" divide " " 4.4428.

To find Side of an Equal Square:

Multiply diameter by 0.8862.
Or divide " " 1.1284.
Or multiply circumference by 0.2821.
Or divide " " 3.545.

Square:

A side multiplied by 1.4142 equals diameter of its circumscribing circle.
" " " 4.443 " circumference of its circumscribing circle.
" " " 1.128 " diameter of an equal circle.
" " " 3.547 " circumference of an equal circle.
Square inch multiplied by 1.273 equals circle inches of an equal circle.

To find the Area of a Circle:

Multiply circumference by one-fourth of the diameter.
Or " the square of diameter by 0.7854.
" " " " circumference by .07958.
" " " " one-half diameter by 3.1416.

To find the Surface of a Sphere or Globe:

Multiply the diameter by the circumference.
Or " " square of diameter by 3.1416.
" " four times the square of radius by 3.1416.

To find the Weight of Brass and Copper Sheets, Rods or Bars:

Ascertain the number of cubic inches in piece and multiply same by weight per cubic inch.

Brass, 0.2972 lbs.
Copper, 0.3212 "

Or multiply the length by the breadth (in feet) and product by weight in pounds per square foot.

MEASURES OF LENGTH

4	inches	= 1 hand.	3 feet	=	1 yard.
7.92	inches	= 1 link.	5½ yards	=	1 rod or pole.
18	inches	= 1 cubit.	40 poles	=	1 furlong.
12	inches	= 1 foot.	8 furlongs	=	1 mile.
6	feet	= 1 fathom.	69⅛ miles	=	degree.

60 geographical miles = 1 degree.
1760 yards } = 1 mile.
5280 feet }

MEASURES OF SURFACE

144	square inches	= 1 square foot.
9	square feet	= 1 square yard.
30¼	square yards	= 1 square rod, perch or pole.
40	square rods	= 1 square rood.
4	square roods	= 1 acre.
10	square chains	= 1 acre.
640	acres	= 1 square mile.

Gunter's chain equal to 22 yards or 100 links.

272¼	square feet	= 1 square rod.
43,560	square feet	= 1 acre.

MEASURES OF SOLIDITY

1,728	cubic inches	= 1 cubic foot.
27	cubic feet	= 1 cubic yard.

AVOIRDUPOIS WEIGHT

27 11-32	grains	= 1 drachm (dr.), or 27 11-32 grains.
16	drachms	= 1 ounce (oz.), or 437½ grains.
16	ounces	= 1 pound (lb.), or 7,000 grains.
28	pounds	= 1 quarter (qr.)
4	quarters	= 1 hundredweight (cwt.)
20	cwts.	= 1 ton.
2,240	pounds	= 1 ton.

TROY WEIGHT

24	grains	= 1 pennyweight or 24 grains.
20	pennyweights	= 1 ounce or 480 grains.
12	ounces	= 1 pound or 5,760 grains.

APOTHECARIES' WEIGHT

20	grains	= 1 scruple.	8 drachms	=	1 ounce.
3	scruples	= 1 drachm.	12 ounces	=	1 pound.

RULE FOR SQUARE ROOT

To find the Square Root of a number, point off from units, place into periods of two figures, and proceed as follows:—

Wanted, the square root of 2:

```
1)  2.000000 (1.414
1   1
-------------------
24  100
 4   96
-------------------
281   400
  1   281
-------------------
2824  11900
    4 11296
-------------------
2828   .604
```

USEFUL INFORMATION

A gallon of fresh water (U. S. Standard) weight 8⅓ pounds and contains 231 cubic inches.

A gallon of fresh water (Imperial) weighs 10 pounds and contains 277.274 cubic inches.

A cubic foot of water contains 7½ gallons, or 1,728 inches, and weighs 62½ pounds.

Doubling the diameter of a pipe increases its capacity four times.

The capacity of a cylinder in gallons is equal to the length in inches, multiplied by the area in inches divided by 231 which is the cubical contents of one U.S. gallon in inches and by 277,274 for Imperial gallons.

To find the contents in gallons of any Cylindrical vessel multiply the Square of Diameter in inches by the height in inches and by .0034 for U.S. gallons or by .002833 for Imperial gallons.

To find the contents of a vessel whose diameter is larger at one end than at the other, multiply the larger diameter by the smaller in inches; add the square of the large Diameter, add the Square of the Small Diameter and multiply that sum by the height of the vessel in inches, and then multiply by (.2618 for Contents in cubic inches) (by .00113 for Contents in U.S. gallons) and (by .000944 for Contents in Imperial gallons).

To find the contents in gallons of a four-sided vessel, ascertain the cubical contents by multiplying the length, breadth and height in inches, and divide the product by 231, for U.S. gallons and by 277.274 for Imperial gallons.

To find the Circumference of an Oval—Multiply one-half sum of the two diameters by 3.1416.

To find the Area of an Oval—Multiply the diameters together, and that product by .7854.

To find the Area of a Sector of a Circle—Multiply the length of the arc by half the length of a radius.

To find the Side of a Square that shall equal the Area of a Circle of a given Diameter or Circumference—Multiply the diameter of the circle by .886227; or multiply the circumference of the circle by .282094.

To find the Diameter of a Circle that shall contain the Area of a given Square—Multiply the side of the given square by 1.12838.

To find the Circumference of a Circle required to exactly admit a Square of a given Side—Divide the given side by .225079.

To find the Contents of a Prism or of a Cylinder—Multiply the area of the base by the height.

To find the Surface of a Pyramid or of a Cone—Multiply the perimeter or circumference of the base by half of the slant height, and to the product add the area of the base.

To find the Contents of a Pyramid or of a Cone—Multiply the area of the base by one-third the height.

To find the Contents of a Sphere—Multiply the cube of the diameter by .5236.

To find the Area of a Triangle—Multiply the base by half the height.

To find the Area of a Parallelogram—Multiply the base by the height.

TABLE OF WEIGHTS IN POUNDS OF SHEET AND BAR ALUMINUM, BRASS AND STEEL

Thickness or Diam. in Inches		Sheets, per Square Foot			Square Bars, One Ft. Long			Round Bars, One Ft. Long		
Fraction	Dec.	Alum.	Brass.	Steel.	Alum.	Brass.	Steel.	Alum.	Brass.	Steel.
1/16	.0625	.869	2.77	2.52	.004	.014	.013	.003	.011	.010
1/8	.125	1.739	5.55	5.10	.018	.057	.053	.014	.047	.042
3/16	.1875	2.609	8.32	7.65	.041	.131	.119	.032	.102	.094
1/4	.2500	3.479	11.10	10.20	.072	.230	.212	.057	.182	.167
5/16	.3125	4.348	13.87	12.75	.114	.380	.333	.089	.284	.261
3/8	.3750	5.218	16.64	15.30	.163	.520	.478	.128	.408	.375
7/16	.4375	6.088	19.42	17.85	.222	.708	.651	.174	.555	.511
1/2	.5000	6.958	22.20	20.40	.290	.925	.850	.227	.724	.667
9/16	.5625	7.827	24.97	22.95	.367	1.171	1.076	.288	.919	.845
5/8	.6250	8.697	27.74	25.50	.453	1.445	1.328	.356	1.136	1.043
11/16	.6875	9.567	30.52	28.05	.548	1.748	1.608	.430	1.372	1.262
3/4	.7500	10.436	33.29	30.60	.652	2.080	1.913	.516	1.646	1.502
13/16	.8125	11.306	36.07	33.15	.766	2.445	2.245	.601	1.917	1.763
7/8	.8750	12.175	38.84	35.70	.888	2.833	2.603	.697	2.223	2.044
15/16	.9375	13.045	41.61	38.25	1.019	3.251	2.989	.800	2.552	2.347
1	1.0000	13.915	44.39	40.80	1.159	3.697	3.400	.911	2.906	2.670
1 1/16	1.0625	14.784	47.16	43.35	1.309	4.176	3.838	1.028	3.279	3.014
1 1/8	1.125	15.654	49.94	45.90	1.467	4.630	4.303	1.152	3.675	3.379
1 3/16	1.1875	16.524	52.71	48.45	1.635	5.216	4.795	1.284	4.096	3.766
1 1/4	1.2500	17.394	55.48	51.00	1.812	5.780	5.312	1.423	4.539	4.173
1 5/16	1.3125	18.263	58.26	53.55	1.997	6.370	5.857	1.569	5.003	4.600
1 3/8	1.3750	19.133	61.04	56.10	2.192	6.692	6.428	1.722	5.491	5.049
1 7/16	1.4375	20.002	63.81	58.65	2.396	7.644	7.026	1.882	6.002	5.518
1 1/2	1.5000	20.872	66.58	61.20	2.609	8.322	7.650	2.049	6.536	6.008
1 9/16	1.5625	21.741	69.35	63.75	2.831	9.030	8.301	2.223	7.091	6.520
1 5/8	1.6250	22.611	72.13	66.30	3.062	9.768	8.978	2.405	7.672	7.051
1 11/16	1.6875	23.481	74.90	68.85	3.302	10.53	9.682	2.593	8.271	7.604
1 3/4	1.7500	24.350	77.67	71.40	3.550	11.32	10.41	2.789	8.896	8.178
1 13/16	1.8125	25.250	80.54	73.95	3.810	12.15	11.17	2.992	9.544	8.773
1 7/8	1.8750	26.090	83.22	76.50	4.075	13.00	11.95	3.202	10.21	9.388
1 15/16	1.9375	26.960	86.00	79.05	4.352	13.88	12.76	3.417	10.90	10.02
2	2.0000	27.829	88.77	81.60	4.638	14.79	13.60	3.642	11.62	10.68

WEIGHT OF ALUMINUM, IRON, COPPER, BRASS AND LEAD BALLS

Diam. Inch.	Alum. Lbs.	Iron, Lbs.	Copper, Lbs.	Brass, Lbs.	Lead, Lbs.	Diam. Inch.	Alum. Lbs.	Iron, Lbs.	Copper, Lbs.	Brass, Lbs.	Lead, Lbs.
1	.045	.136	.166	.158	.214	7	15.58	46.76	57.1	54.5	73.7
1½	.153	.46	.562	.537	.727	7½	19.17	57.52	70.0	67.11	90.0
2	.363	1.09	1.3	1.25	1.7	8	23.27	69.81	85.2	81.4	110.1
2½	.710	2.13	2.60	2.50	3.35	8½	27.91	83.73	102.3	100.0	132.3
3	1.22	3.68	4.5	4.3	5.8	9	33.10	99.4	121.3	115.9	156.7
3½	1.94	5.84	7.14	6.82	9.23	9½	38.90	116.9	143.0	136.4	184.7
4	2.90	8.72	10.7	10.2	13.8	10	45.45	136.35	166.4	159.0	215.0
4½	3.13	12.42	15.25	14.5	19.6	10½	52.60	157.84	193.0	184.0	250.0
5	5.68	17.04	20.8	19.9	26.9	11	60.49	181.48	221.8	211.8	286.7
5½	7.56	22.68	27.74	26.47	36.0	11½	69.12	207.37	253.5	242.0	327.7
6	9.81	29.45	35.9	34.3	46.4	12	78.54	235.62	288.1	275.0	372.3
6½	12.48	37.44	45.76	43.67	59.13						

MELTING POINT OF SUBSTANCES.

Substance.	Melts °F.	Substance.	Melts °F.	Substance.	Melts °F.
Asphaltum	210	Nitroglycerine	45	Spermaceti	120
Beeswax	154	Parafine	130	Stearine	128
Ice	32	Phosphorous	112	Sulphur	239
Iodine	225	Rosin	175	Water freezes	32
Mercury	—39	Selenium	442	Tallow	92

WEIGHT OF CASTING OF DIFFERENT METALS PER POUND OF WOOD PATTERN.

	Cast Iron.	Copper.	Gunmetal.	Yellow Brass	Zinc.	Aluminum.
Mahogany	8 lbs.	10 lbs.	10 lbs.	9.8 lbs.	8 lbs.	3 lbs.
White Pine	14 "	18 "	17.8 "	17.5 "	14.5 "	6 "
Yellow Pine	13 "	16 "	16 "	15.5 "	12.6 "	5.5 "
Cedar	11.5 "	14.5 "	14.5 "	14 "	11.4 "	4.6 "
Maple	10 "	12.5 "	12.4 "	12 "	9.8 "	4.2 "
Cherry	9 "	12 "	12 "	11.8 "	9.4 "	4 "

SHRINKAGE OF CASTINGS PER FOOT.—Yellow brass, $\frac{5}{32}$; gunmetal, $\frac{9}{64}$; copper, $\frac{3}{16}$; zinc, $\frac{5}{16}$; cast iron, $\frac{1}{8}$; aluminum, $\frac{7}{32}$; lead, $\frac{5}{32}$.

CASE HARDENING CAST IRON.—Salt, 21 lbs.; saltpetre, $\frac{1}{2}$ lb.; rock alum, 8 lb.; carbonate ammonia, 4 oz.; salt of tartar, 4 oz. Pulverize all together and incorporate thoroughly. Use by powdering all over the iron while hot, then plunging into a cold liquid made as follows:—Soft water, 10 gals.; salt, 1 peck; oil of vitriol, $\frac{1}{2}$ pint; saltpetre, $\frac{1}{2}$ lb.; prusiate of potash, $\frac{1}{4}$ lb.; cyanide of potash, $\frac{1}{4}$ lb. Heat the iron a cherry red, and if not sufficiently hard repeat the process.

An "ATMOSPHERE," 14.7 lbs. at 62 °F., is equal to a column of mercury 30″ high, or a column of water 33.9 feet high. Approximately each foot of elevation = $\frac{1}{2}$ lb. pressure per square inch, but to find the **exact** pressure in lbs. per square inch of a column of water x the height in feet by .434. .434 is the decimal fraction of the lb. pressure per square inch of a column of water 1 foot high at 62 °F. **Example:** 100 feet height of column x .434 = 43.4 lb. pressure.

TEMPERATURE—COLOR OF FIRE.

Appearance	°Fah.	Appearance	°Fah.
Red, just visible	996	Orange, deep	2020
Red, dull	1290	Orange, clear	2190
Cherry, dull	1470	White heat	2370
Cherry, full	1650	White, bright	2550
Cherry, clear	1830	White, dazzling	2912

EVAPORATIVE POWER OF ONE POUND OF VARIOUS FUELS AT ATMOSPHERIC PRESSURE (15 POUNDS).

1 lb. good coal will evaporate 10 lbs. of water. 1 lb. crude petroleum will evaporate 16 lbs. of water. 1 lb. natural gas (25 cubic feet) will evaporate 20 lbs. of water.

22,450 cubic feet of natural gas (atmospheric pressure) is equal to 1 ton of good soft coal.

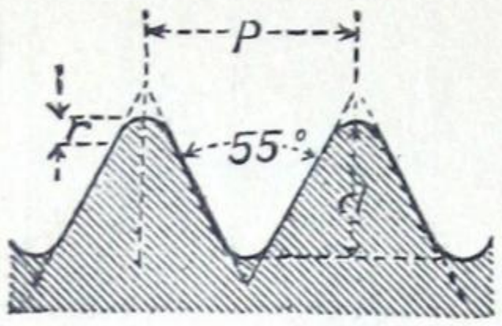
THERMOMETER SCALES.

COMPARATIVE VALUES IN THE CENTIGRADE, FAHRENHEIT AND REAUMUR SCALES OF TEMPERATURE.

C.	F.	R.	C.	F.	R.	C.	F.	R
100°	212.0°	80.0°	50°	122.0°	40.0°	Zero°	32.0°	Zero°
99	210.2	79.2	49	120.2	39.2	— 1	30.2	— 0.8
98	208.4	78.4	48	118.4	38.4	— 2	28.4	— 1.6
97	206.6	77.6	47	116.6	37.6	— 3	26.6	— 2.4
96	204.8	76.8	46	114.8	46.8	— 4	24.8	— 3.2
95	203.0	76.0	45	113.0	36.0	— 5	23.0	— 4.0
94	201.2	75.2	44	111.2	35.2	— 6	21.2	— 4.8
93	199.4	74.4	43	109.4	34.4	— 7	19.4	— 5.6
92	197.6	73.6	42	107.6	33.6	— 8	17.6	— 6.4
91	195.8	72.8	41	105.8	32.8	— 9	15.8	— 7.2
90	194.0	72.0	40	104.0	32.0	—10	14.0	— 8.0
89	192.2	71.2	39	102.2	31.2	—11	12.2	— 8.8
88	190.4	70.4	38	100.4	30.4	—12	10.4	— 9.6
87	188.6	69.6	37	98.6	29.6	—13	8.6	—10.4
86	186.8	68.8	36	96.8	28.8	—14	6.8	—11.2
85	185.0	68.0	35	95.0	28.0	—15	5.0	—12.0
84	183.2	67.2	34	93.2	27.2	—16	3.2	—12.8
83	181.4	66.4	33	91.4	26.4	—17	1.4	—13.6
82	179.6	65.6	32	89.6	25.6	—18	— 0.4	—14.4
81	177.8	64.8	31	87.8	24.8	—19	— 2.2	—15.2
80	176.0	64.0	30	86.0	24.0	—20	— 4.0	—16.0
79	174.2	63.2	29	84.2	23.2	—21	— 5.8	—16.8
78	172.4	62.4	28	82.4	22.4	—22	— 7.6	—17.6
77	170.6	61.6	27	80.6	21.6	—23	— 9.4	—18.4
76	168.8	60.8	26	78.8	20.8	—24	—11.2	—19.2
75	167.0	60.0	25	77.0	20.0	—25	—13.0	—20.0
74	165.2	59.2	24	75.2	19.2	—26	—14.8	—20.8
73	163.4	58.4	23	73.4	18.4	—27	—16.6	—21.6
72	161.6	57.6	22	71.6	17.6	—28	—18.4	—22.4
71	159.8	56.8	21	69.8	16.8	—29	—20.2	—23.2
70	158.0	56.0	20	68.0	16.0	—30	—22.0	—24.0
69	156.2	55.2	19	66.2	15.2	—31	—23.8	—24 8
68	154.4	54.4	18	64.4	14.4	—32	—25.6	—25.6
67	152.6	53.6	17	62.6	13.6	—33	—27.4	—26.4
66	150.8	52.8	16	60.8	12.8	—34	—29.2	—27.2
65	149.0	52.0	15	59.0	12.0	—35	—31.0	—28.0
64	147.2	51.2	14	57.2	11.2	—36	—32.8	—28.8
63	145.4	50.4	13	55.4	10.4	—37	—34.6	—29.6
62	143.6	49.6	12	53.6	9.6	—38	—36.4	—30.4
61	141.8	48.8	11	51.8	8.8	—39	—38.2	—31.2
60	140.0	48.0	10	50.0	8.0	—40	—40.0	—32.0
59	138.2	47.2	9	48.2	7.2	—41	—41.8	—32.8
58	136.4	46.4	8	46.4	6.4	—42	—43.6	—33.6
57	134 6	45.6	7	44.6	5.8	—43	—45.4	—34.4
56	132.8	44.8	6	42.8	4.8	—44	—47.2	—35.2
55	131.0	44.0	5	41.0	4.0	—45	—49.0	—36.0
54	129.2	43.2	4	39.2	3.2	—46	—50.8	—36.8
53	127.4	42.4	3	37.4	2.4	—47	—52.6	—37.6
52	125.6	41.6	2	35.6	1.6	—48	—54.5	—38.4
51	123.8	40.8	1	33.8	0.8	—49	—56.2	—39.2

TABLE OF PROPERTIES OF SATURATED STEAM.

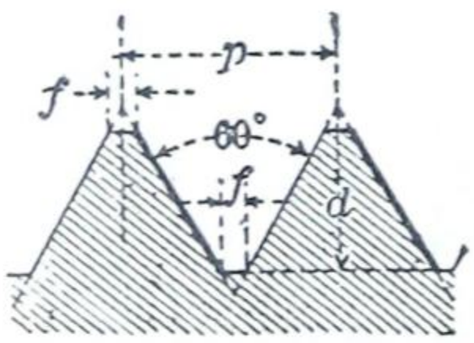
Steam Gauge Pressure	Pressure in Lbs. per sq. inch above Vacuum	Temperature in deg. Fahrenheit	Total Heat in heat units from water at 32°	Heat Units in Liquid from 32° in units	Heat of Vaporization in heat units	Density or Weight of cubic foot in Lbs.	Volume of One Pound in cubic feet	Factor of Equivalent Evaporization at 212°	Weight of one cubic foot of Water in Lbs.
.....	1	101.99	1113.1	70.0	1043.0	0.00299	334.5	.9661	62.00
.....	2	126.27	1120.5	94.4	1026.1	0.00576	173.6	.9738	61.63
.....	3	141.62	1125.1	109.8	1015.3	0.00844	118.5	.9786	61.35
.....	4	153.09	1128.6	121.4	1007.2	0.01107	90.33	.9822	61.12
.....	5	162.34	1131.5	130.7	1000.8	0.01366	73.21	.9852	60.93
.....	6	170.14	1133.8	138.6	995.2	0.01622	61.65	.9876	60.77
.....	7	176.90	1135.9	145.4	990.5	0.01874	53.39	.9897	60.62
.....	8	182.92	1137.7	151.5	986.2	0.02125	47.06	.9916	60.48
.....	9	188.33	1139.4	156.9	982.5	0.02374	42.12	.9934	60.36
.....	10	193.25	1140.9	161.9	979.0	0.02621	38.15	.9949	60.24
.....	15	213.03	1146.9	181.8	965.1	0.03826	26.14	1.003	59.71
5	20	227.95	1151.5	196.9	954.6	0.05023	19.91	1.0051	59.12
10	25	240.04	1155.1	209.1	946.0	0.06199	16.13	1.0099	59.04
15	30	250.27	1158.3	219.4	938.9	0.07360	13.59	1.0129	58.77
20	35	259.19	1161.0	228.4	932.6	0.08508	11.75	1.0157	58.50
25	40	267.13	1163.4	236.4	927.0	0.09644	10.37	1.0182	58.3
30	45	274.29	1165.6	243.6	922.0	0.1077	9.285	1.0205	58.07
35	50	280.85	1167.6	250.2	917.4	0.1188	8.418	1.0225	57.88
40	55	286.89	1169.4	256.3	913.1	0.1299	7.698	1.0245	57.69
45	60	292.51	1171.2	261.9	909.3	0.1409	7.097	1.0263	57.55
50	65	297.77	1172.7	267.2	905.5	0.1519	6.583	1.0280	57.32
55	70	302.71	1174.3	272.2	902.1	0.1628	6.143	1.0295	57.22
60	75	307.38	1175.7	276.9	898.8	0.1736	5.760	1.0309	57.08
65	80	311.80	1177.0	281.4	895.6	0.1843	5.426	1.0323	56.95
70	85	316.02	1178.2	285.8	892.5	0.1951	5.126	1.0337	56.82
75	90	320.04	1179.6	290.0	889.6	0.2058	4.859	1.0350	56.69
80	95	323.89	1180.7	294.0	886.7	0.2165	4.619	1.0362	56.59
85	100	327.58	1181.9	297.9	884.0	0.2271	4.403	1.0374	56.47
90	105	331.13	1182.9	301.6	881.3	0.2378	4.205	1.0385	56.36
95	110	334.56	1184.0	305.2	878.8	0.2484	4.026	1.0390	56.25
100	115	337.86	1185.0	308.7	876.3	0.2589	3.862	1.0406	56.18
105	120	341.05	1186.0	312.0	874.0	0.2695	3.711	1.0416	56.07
110	125	344.13	1186.9	315.2	871.7	0.2800	3.571	1.0426	55.97
115	130	347.12	1187.8	318.4	869.4	0.2904	3.444	1.0435	55.87
125	140	352.85	1189.5	324.4	865.1	0.3113	3.212	1.0453	55.69
135	150	358.26	1191.2	330.0	861.2	0.3321	3.011	1.0470	55.52
145	160	363.40	1192.8	335.4	857.4	0.3520	2.833	1.0486	55.36
155	170	368.29	1194.3	340.5	853.8	0.3737	2.676	1.0502	55.22
165	180	372.97	1195.7	345.4	850.3	0.3945	2.535	1.0517	55.07
175	190	377.44	1197.1	350.1	847.0	0.4153	2.408	1.0531	54.93
185	200	381.73	1198.4	354.6	843.8	0.4359	2.294	1.0545	54.79
210	225	391.79	1201.4	365.1	836.3	0.4876	2.051	1.0576	54.44
235	250	400.99	1204.2	374.7	829.5	0.5393	1.854	1.0605	54.20
260	275	409.50	1206.8	383.6	823.2	0.5913	1.691	1.0632	53.95
285	300	417.42	1209.3	391.9	817.4	0.644	1.553	1.0657	53.68
310	325	424.82	1211.5	399.6	811.9	0.696	1.437	1.0680	52.66
335	350	431.90	1213.7	406.9	806.8	0.748	1.337	1.0703	52.40
360	375	438.40	1215.7	414.2	801.5	0.800	1.250	1.0724	52.10
385	400	445.15	1217.7	421.4	796.3	0.853	1.172	1.0745	51.86
485	500	466.57	1224.2	444.3	773.9	1.065	.939	1.0812	51.00



WHITWORTH STANDARD THREAD.

Formula
- p = pitch = $\frac{1}{\text{No. threads per inch.}}$
- d = depth = p x .64033.
- r = radius = p x .1373.

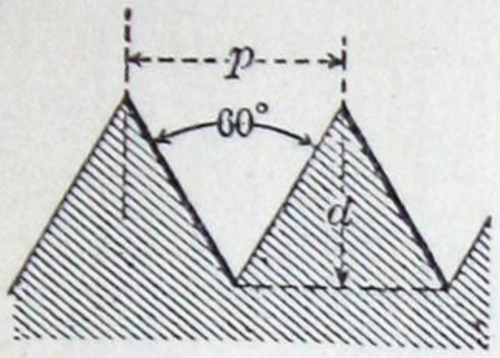
Diameter	Number of Threads.	Diameter at Bottom of Threads	Diameter	Number of Threads.	Diameter at Bottom of Threads	Diameter	Number of Threads.	Diameter at Bottom of Threads
$\frac{1}{4}$	20	.1859	$1\frac{1}{8}$	7	.942	$2\frac{5}{8}$	4	2.3048
$\frac{5}{16}$	18	.2413	$1\frac{1}{4}$	7	1.067	$2\frac{3}{4}$	$3\frac{1}{2}$	2.384
$\frac{3}{8}$	16	.2949	$1\frac{3}{8}$	6	1.1615	$2\frac{7}{8}$	$3\frac{1}{2}$	2.509
$\frac{7}{16}$	14	.346	$1\frac{1}{2}$	6	1.2865	3	$3\frac{1}{2}$	2.634
$\frac{1}{2}$	12	.3932	$1\frac{5}{8}$	5	1.3688	$3\frac{1}{8}$	$3\frac{1}{2}$	2.759
$\frac{9}{16}$	12	.4557	$1\frac{3}{4}$	5	1.4938	$3\frac{1}{4}$	$3\frac{1}{4}$	2.856
$\frac{5}{8}$	11	.5085	$1\frac{7}{8}$	$4\frac{1}{2}$	1.5904	$3\frac{3}{8}$	$3\frac{1}{2}$	2.981
$\frac{11}{16}$	11	.571	2	$4\frac{1}{2}$	1.7154	$3\frac{1}{2}$	$3\frac{1}{4}$	3.106
$\frac{3}{4}$	10	.6219	$2\frac{1}{8}$	$4\frac{1}{2}$	1.8404	$3\frac{5}{8}$	$3\frac{1}{4}$	3.231
$\frac{13}{16}$	10	.6844	$2\frac{1}{4}$	4	1.9298	$3\frac{3}{4}$	3	3.323
$\frac{7}{8}$	9	.7327	$2\frac{3}{8}$	4	2.0548	$3\frac{7}{8}$	3	3.448
$\frac{15}{16}$	9	.7952	$2\frac{1}{2}$	4	2.1798	4	3	3.573
1	8	.8399						



UNITED STATES STANDARD THREAD.

Formula
- p = pitch = $\frac{1}{\text{No. threads per inch.}}$
- d = depth = p. x. .6495.
- f = flat = $\frac{p}{8}$

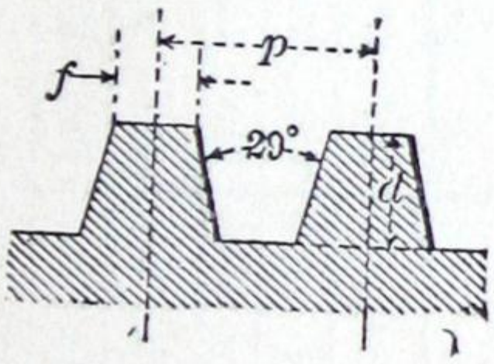
Diameter	Number of Threads.	Diameter at Bottom of Threads.	Diameter	Number of Threads.	Diameter at Bottom of Threads	Diameter	Number of Threads.	Diameter at Bottom of Threads
$\frac{1}{4}$	20	.185						
$\frac{5}{16}$	18	.240	$1\frac{3}{8}$	6	1.158	$2\frac{3}{4}$	4	2.425
$\frac{3}{8}$	16	.294	$1\frac{1}{2}$	6	1.284	$2\frac{7}{8}$	$3\frac{1}{2}$	2.504
$\frac{7}{16}$	14	.345	$1\frac{5}{8}$	$5\frac{1}{2}$	1.389	3	$3\frac{1}{2}$	2.629
$\frac{1}{2}$	13	.401	$1\frac{3}{4}$	5	1.490	$3\frac{1}{8}$	$3\frac{1}{2}$	2.754
$\frac{9}{16}$	12	.454	$1\frac{7}{8}$	5	1.615	$3\frac{1}{4}$	$3\frac{1}{2}$	2.879
$\frac{5}{8}$	11	.507	2	$4\frac{1}{2}$	1.711	$3\frac{3}{8}$	$3\frac{1}{4}$	2.975
$\frac{3}{4}$	10	.620	$2\frac{1}{8}$	$4\frac{1}{2}$	1.836	$3\frac{1}{2}$	$3\frac{1}{4}$	3.100
$\frac{7}{8}$	9	.731	$2\frac{1}{4}$	$4\frac{1}{2}$	1.961	$3\frac{5}{8}$	$3\frac{1}{4}$	3.225
1	8	.838	$2\frac{3}{8}$	4	2.050	$3\frac{3}{4}$	3	3.317
$1\frac{1}{8}$	7	.939	$2\frac{1}{2}$	4	2.175	$3\frac{7}{8}$	3	3.442
$1\frac{1}{4}$	7	1.064	$2\frac{5}{8}$	4	2.300	4	3	3.567



SHARP "V" THREAD.

Formula $\begin{cases} p = \text{pitch} = \dfrac{1}{\text{No. Threads per inch.}} \\ = \text{depth} = p \times .8660. \end{cases}$

Diameter	Number of Threads	Diameter at Bottom of Threads	Diameter	Number of Threads	Diameter at Bottom of Threads	Diameter	Number of Threads	Diameter at Bottom of Threads
$\frac{1}{4}$	20	.163	$1\frac{1}{8}$	7	.878	$2\frac{5}{8}$	4	2.192
$\frac{5}{16}$	18	.216	$1\frac{1}{4}$	7	1.003	$2\frac{3}{4}$	4	2.317
$\frac{3}{8}$	16	.267	$1\frac{3}{8}$	6	1.086	$2\frac{7}{8}$	4	2.442
$\frac{7}{16}$	14	.314	$1\frac{1}{2}$	6	1.211	3	$3\frac{1}{2}$	2.505
$\frac{1}{2}$	12	.356	$1\frac{5}{8}$	5	1.279	$3\frac{1}{8}$	$3\frac{1}{2}$	2.630
$\frac{9}{16}$	12	.419	$1\frac{3}{4}$	5	1.404	$3\frac{1}{4}$	$3\frac{1}{2}$	2.755
$\frac{5}{8}$	11	.468	$1\frac{7}{8}$	$4\frac{1}{2}$	1.490	$3\frac{3}{8}$	$3\frac{1}{4}$	2.842
$\frac{11}{16}$	11	.530	2	$4\frac{1}{2}$	1.615	$3\frac{1}{2}$	$3\frac{1}{4}$	2.967
$\frac{3}{4}$	10	.577	$2\frac{1}{8}$	$4\frac{1}{2}$	1.740	$3\frac{5}{8}$	$3\frac{1}{4}$	2.092
$\frac{13}{16}$	10	.639	$2\frac{1}{4}$	$4\frac{1}{2}$	1.865	$3\frac{3}{4}$	3	3.173
$\frac{7}{8}$	9	.683	$2\frac{3}{8}$	$4\frac{1}{2}$	1.990	$3\frac{7}{8}$	3	3.298
$\frac{15}{16}$	9	.745	$2\frac{1}{2}$	4	2.067	4	3	3.423
1	8	.784						



ACME STANDARD THREAD.

Formula $\begin{cases} p = \text{pitch} = \dfrac{1}{\text{No. Threads per inch.}} \\ d = \text{depth} = \frac{1}{2}\ p + .010. \\ f = \text{flat on Top of Thread} = p. \times .3707. \end{cases}$

No. Threads per Inch.	Depth of Thread.	Width of Top of Thread.	Width at Bottom of Thread.	Space at Top of Thread.	Thickness at Root of Thread.
1	.5100	.3707	.3655	.6293	.6345
$1\frac{1}{2}$	.3850	.2780	.2728	.4720	.4772
2	.2600	.1853	.1801	.3147	.3199
3	.1767	.1235	.1183	.2098	.2150
4	.1350	.0927	.0875	.1573	.1625
5	.1100	.0741	.0689	.1259	.1311
6	.0933	.0618	.0566	.1049	.1101
7	.0814	.0529	.0478	.0899	.0951
8	.0725	.0463	.0411	.0787	.0839
9	.0655	.0413	.0361	.0699	.0751
10	.0600	.0371	.0319	.0629	.0681

COMPRESSED MULTIPLICATION TABLE.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	100	115	120	125
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	168	176	184	192	200
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	187	198	209	220	231	242	253	264	275
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300
13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325
14	28	42	56	70	84	98	112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336	350
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375
16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400
17	34	51	68	85	102	119	136	153	170	187	204	221	238	255	272	289	306	323	340	357	374	391	408	425
18	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360	378	396	414	432	450
19	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361	380	399	418	437	456	475
20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500
21	42	63	84	105	126	147	168	189	210	231	252	273	294	315	336	357	378	399	420	441	462	483	504	525
22	44	66	88	110	132	154	176	198	220	242	264	286	308	330	352	374	396	418	440	462	484	506	528	550
23	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483	506	529	552	575
24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528	552	576	600
25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625

This table is used as follows:—Suppose 18 x 17 is required. Find 18 in the column on the left side, and 17 in that on the top side, the number, (viz., 306) in the square where the horizontal and vertical columns from these numbers respectively meet will be the required product.

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